The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 763.—Vol. XX.] LONDON, SATURDAY, APRIL 6, 1850. [Price 6d.

FOR SALE, BY PUBLIC AUCTION, at the CLARENDON ROOMS, LIVERPOOL, on Wednesday, the 17th of April, 1850, at One o'clock, THREE HUNDRED TONS of SOFT PIG-LEAD, free from slag, in lots of 50 tons each. Apply to Mather & Co., 11, Goree, Liverpool; or Bagillt Lead-Works, Holywell.

On WEDNESDAY, THURSDAY, FRIDAY, and SATURDAY, April 24, 25, 26, & 27, 1850.

To Railway Contractors and Proprietors, Timber Merchants, Builders, Miners, Engineers, Founders, Stone Merchants, Carriers, Brokers, and others.—Very Important Sale of all the Extensive and Valuable Materials, Plant, Timber, Steam-Engines, Boats, Wagons, Trucks, Implements, Tools, Machinery, and other property lately used in the formation and construction of a work of great magnitude and mechanical skill, known as the far-famed Standedge Tunnel, upon the Manchester and Huddersfield Branch of the London and North-Western Railway.

MR. WHEATLEY KIRK has the pleasure to announce, that he is honoured with instructions from Thos. Nicholson, Esq., the eminent contractor, who has finished his contract, to SELL, BY AUCTION, on Wednesday, Thursday, Friday, and Saturday, April 24th, 25th, 26th, and 27th, 1850, all the valuable

RAILWAY PLANT, MATERIALS, &c.,

used in the CONSTRUCTION and COMPLETION of STANDEDGE TUNNEL, in MARSDEN, and the adjoining RAILWAY WORKS, among which may be named

25-horse power HIGH-PRESSURE STEAM-ENGINES. These engines have all wrought-iron axles, and capable of being made 15 or 20 horses' more, with an extra cylinder. No. 1 engine has a 30-horse boiler; Nos. 2, 3, 4, and 5, have two boilers each, 24 ft. long, 6 ft. diameter, and circular ends, all in capital working condition, and nearly new; 1 12-horse ditto, which has a mortar-mill, double rollers, revolving iron pans, and saw-mill attached thereto, excellent capstan ropes, 3-inch diameter, several flat-ropes, 200 yards long, about 30 tons of light rails, a large quantity of scrap-iron, 15 long narrow boats, and 4 short ditto, all in capital condition, and newly docked, a large quantity of prop and other timber, 30 centres of 30 ft. span, and 7 ft. 6 in. rise, a large quantity of tunnel and other centres, of various sizes, varying from 3 ft., 6 ft. and 12 ft. for culverts, 5 sets of head gears, of the best solid oak, a large quantity of Memel oak and elder timber, also oak suitable for millwrights, round timber, prop wood for collieries and lime works, scantlings, boards, and planks, of 9 inch, 10-inch, 11-inch, and 12-inch, firewood in immense quantities, also a large lot of temporary sleepers, &c., scrap, plate, round, and centre iron, a number of iron ovens, a weighing machine, capable of weighing 9 tons, 3000 yards of conducting or guide rods, of the very best iron, in lengths averaging 30 ft. each, tapped and fitted, &c., wheelbarrows, a large crane, with oak shaft, capable of lifting 10 tons, a small ditto, 6 crab windlasses, a very excellent setting crane, 12 wrought-iron beacon fire-grates, 12 smiths' anvils, in excellent condition, 200 small waggons, each waggon contains 2 cwts. of the very best wrought-iron, besides the wheels and axles (these have been used for winding the material out of the shafts, and have four bolts to each, looped and screwed right through), 30 turn-tables, framed in American elm timber, each 4 ft. 6 in. diameter, and weighing about 6 cwts. each, a pile engine, with iron ram, 5 capstans, with heart-of-oak shafts, all well hooped, and pedestals of the very best description, a number of folding doors, for the tops of shafts, with balances, axles, &c., a pair of capital pulleys, 6 ft. diameter, and 9-inch opening in coil space, several pairs of 4 ft. 6 in. and other dimensions, a quantity of waggon wheels, 2 ft. 6 in., a capital crane, with new jib upright bars up the shaft, &c. In the stores, &c., will be found a quantity of striking hammers, of various sizes, from 7 lbs. to 18 lbs. each, quarry and mining picks, buckling chains, blocks, pulleys, hooks, quarry bars of different sizes, vices, anvils, smiths' bellows, smiths' tools, handles, large beam and scales, weights, fuses, wrought-iron spikes, about 100 tons of new and old wrought-iron, oil cistern, pump, lanterns, a capital 4-wheeled waggon, nearly new, with 6-inch wheels and shelvings, double and single shafts, &c., spring-cart in excellent condition, two other carts, excellent whitechapel, gig, harness, bay mare, saddles, bridles, a number of sets of chain and cart-harness, gearing, &c., hay choppers, joiners' benches and tools, and an immense collection of other miscellaneous properties and effects.

N.B.—No. 1 steam-engine has a 30-horse boiler attached thereto; and Nos. 2, 3, 4, and 5 have two boilers, each 24 feet long, and 6 feet in diameter.

Fully detailed particulars in catalogues, which are being prepared, and may be had, five days prior to the sale, of the auctioneer, at his offices, 68, Cross-street, King-street, in Manchester; or of Mr. Nicholson, at the works, Marsden, near Huddersfield.

P.S.—The whole of the above valuable effects are lying on the railway, at Marsden and Saddleworth, which is also close to the canal and turnpike-road, which renders it most easy of transit.

ORDER OF SALE—VIZ.:

First Day.—Part timber, waggons, smiths' shops, stores, wrought and cast metal, five boats, sleepers, &c.

Second Day.—Part timber, stores, tools, wrought and cast metal, bay mare, whitechapel, gig, harness, four-wheeled waggon, spring-cart, &c.

Third Day.—Six boats, turn-tables, heavy implements and machinery, rails, waggons, and remainder of timber, weighing machine, &c.

Fourth Day.—N.B. This day's sale will commence at the Saddleworth end of the tunnel—consequently, parties coming by rail from Manchester must alight at the Saddleworth Station, and will comprise 5 steam-engines, 25-horse power each, 1 ditto, 12-horse, mortar-mills, engine-houses, sheds, buildings, capstans, guide-rods, &c.

P.S.—The sale to commence each morning a little after Eleven o'clock, in order to give time for the arrival of the trains from Manchester, Huddersfield, Leeds, &c.

COLLIERIES AND MINERALS, GLAMORGANSHIRE.

TO BE LET, ON LEASE, all the VEINS of COAL, IRON MINE, and FIRE-CLAY, lying under HENDREGARREG FARM, containing 394 A. 0 R. 17 P., situate at GLYNCORRWG, 9 miles from Neath, and within 4 miles of the Vale of Neath Canal and Railway, which communicate with the ports of Neath, Briton-ferry, and Swansea—one Vein of Free-burning Coal, 3-feet thick, of most excellent quality, which crops out, has been fully proved, and there is no doubt that all the lower measures (both of coal and iron mine) belonging to the South Wales Basin, are to be met with under this property. The coal may be opened, cut, and shipped at a cheap rate.

A most favourable opportunity for establishing an extensive colliery is thus afforded, at a time when the completion of the South Wales and Vale of Neath Railways (now in a forward state) will give peculiar value to the minerals of this district. The SURFACE (if desired) will BE LET with the MINERALS.

Also, the LLETTY MAWR COLLIERY; a small field, but most advantageously situated, being only three miles from Neath, immediately above the canal and railway leading to Neath, Britonferry, and Swansea. The coal is 3 feet thick, free-burning, and of superior quality, suitable for household and all other purposes. It may be worked very cheaply, and with a small capital, as a short level will drain the whole field, and a short incline connect the mouth of the level with the above canal and railway; neither steam or horses will, therefore, be required.

Applications to be made to W. J. Browne, Esq., Porter's-road, Luddington; A. Cuthbertson, Esq., Neath; or Mr. L. Griffiths, Ynisygerwn, near Neath.

LEAD MINES TO BE LET—the LEAD MINES of FEE DONALD, situated in the MINING DISTRICT of STRONTIAN, ARGYLLSHIRE.—The ORE is a good SULPHURET, yielding, by correct analysis, 87 per cent. of lead. There are several veins which have been partially worked, and hold out encouraging prospects of success; they are favourably situated for free levels, and a stream (important for washing the ore, &c.) flows across them. An easy road, a few miles in length, will convey the produce to Loch Sunard, an arm of the sea (western ocean), whence it may be transported to any part of the United Kingdom.

The district has been surveyed by Mr. Rise, lecturer on mineralogy; and for further particulars application may be made to Messrs. Inglis and Burns, W.S., 16, Queen-street; or Mr. Alex. Rise, mineralogist, 2, Drummond-street, Edinburgh; and Mr. John Watson, factor, Strontian, Argyllshire.—Edinburgh, March 13, 1850.

VALLEY FURNACE ESTATE.—TO CAPITALISTS.—The UNDERSIGNED has a most valuable ESTATE FOR SALE, consisting of EIGHT THOUSAND ACRES of ANTHRACITE COAL and IRON LANDS, situate in SCHUYLKILL COUNTY, PENNSYLVANIA, distant from Philadelphia 95 miles, and from New York about 109, by railroads to the respective cities—the one with a population exceeding 350,000, and the other about 500,000. This is the only known region of anthracite on the American continent—geologists can say whether there be others elsewhere. The quality of the coal is beyond dispute. No other locality throughout that extensive mineral region exceeds this, that county being now more densely populated than any other in the State, except Philadelphia county, though it was in a wild state only a few years ago. Canals and railroads develope this great mineral region, at an outlay of quite $27,000,000, or more than £5,000,000 sterling, and the expenditure upon the Valley Furnace Estate exceeds £20,000, chiefly by the tenants. The net annual income now received from only 18 tenants exceeds $30,000, or about £600, payable monthly, and by the daily weight of the coals.

The veins are inexhaustible, and of the easiest possible access, giving firm assurance of a net income (without any further outlay by owners, but only by tenants), and at an early date, of not less than $300,000, or about 60,000*l.* The largest known vein (probably in the world) has very recently been opened, it being 60 feet thick, by about four miles in length, through these lands. The veins heretofore worked are from 12 to 15 feet thick.

Capitalists will be furnished with a minute printed statement, written opinions, and with maps of the land, its improvements, capabilities, &c. No contract, deposit, or reliance is asked for by the owner—the title is absolutely simple and perfect, nor will any sale be made but after a thorough inquiry on the spot by intending purchasers, even though greatly satisfied here. All, and more than is represented, will be satisfactorily proved. The one-ninth of the estate is retained by a wealthy owner, who is unwilling to sell on any terms—and why sold at all will be satisfactorily stated. The sum demanded will be about 140,000*l.* for the 8-9ths interest in the estate. Its present net yield, from only 18 tenants, is 60,000*l.*, or 5 per cent. on 120,000*l.* The tenants may be readily increased from eight to twelve-fold.

Capitalists are invited to consult my legal adviser, David Hoffman, Esq., now permanently resident in London, at 41, Conduit-street, Hanover-square, who is authorised to refer them to the Hon. Abbot Lawrence, the American Minister, 138, Piccadilly; and to Messrs. Baring, Brothers, and Co., 8, Bishopsgate-street-within. Letters will also be exhibited from Messrs. Clayton and Buchanan, the present and late Secretaries of State of the United States, and from many others of distinction in that country, but only to establish a preliminary confidence sufficient to induce capitalists to consult my legal adviser, nothing being asked or expected from them beyond a thorough examination of the accuracy of all statements made by Mr. Hoffman, during my very temporary return to the United States. HIATT P. HEPBURN.

ASTURIAN MINING COMPANY—IN LIQUIDATION.—Notice is hereby given, that the MONTHLY BALANCE-SHEETS of the Company, to the 31st of December, 1849, and to the 31st of January last, prepared subject to the pending investigation, are now in COURSE of DISTRIBUTION. The abstracts of the accounts remain at the Company's offices at Mieres and in London for inspection.

By order of the Board of Directors and Liquidators,
9, Austinfriars, London, March 26, 1850. K. MACKENZIE, Secretary.

ASTURIAN MINING COMPANY—IN LIQUIDATION.—Notice is hereby given, that the SPECIAL GENERAL MEETING of this Company, held the 26th day of March inst., has been ADJOURNED, and that the said ADJOURNMENT will be HELD at the Company's offices, 9, Austinfriars, London, on Tuesday, the 16th day of April next, at the hour of One o'clock, for the completion of the business for the transaction of which the said meeting was convoked.

And Notice is also given, that the TIME for RECEIVING TENDERS for the PURCHASE of the COMPANY'S PROPERTY, as heretofore advertised, is EXTENDED to the 12th day of APRIL, and that in case there shall be a *bonâ fide* and sufficient tender, the property will be disposed of without reserve.

CHARLES CUNINGHAM, Chairman pro tem.
9, Austinfriars, London, March 27, 1850.

CALLINGTON MINES COMPANY.—At the Annual General meeting of the shareholders in this Company, held on the 27th inst., at Salvador-house,

PETER STAINSBY, Esq., in the chair,

The following resolutions were passed unanimously,—

That the report and accounts, now read and submitted, be received and adopted by this meeting, and entered in the cost and transfer book of the company.

That James Lewis, Esq., the Director retiring from the direction of the company by rotation, and who offers himself for re-election, be re-elected a director of this company.

That the auditors, Messrs. Hammond and Leary, who retire from their office of auditors, and who offer themselves for re-election, be re-elected the auditors for the present year.

COMBMARTIN AND NORTH DEVON LEAD AND SILVER SMELTING COMPANY.

REGISTERED UNDER THE JOINT-STOCK COMPANIES' ACT.

The SMELTING-WORKS of the above COMPANY are in ACTIVE OPERATION.—SAMPLES of LEAD and SILVERY ORES are requested to be forwarded to Captain Cornelius Bawden, Combmartin, near Ilfracomb, North Devon.

Payment for ores by bill, at three months, or cash if required.
Combmartin, Jan. 1, 1850. THOMAS L. WILLSHIRE, Secretary.

CARADON VALE MINE,
SAINT IVE, NEAR LISKEARD, CORNWALL.

PURSERS—Mr. John Stephens, St. Ive, Liskeard; Mr. Charles Collins, Exeter.

BANKERS—Mr. Sanders, Exeter; the Devon and Cornwall Bank, Exeter and Liskeard.

This mine is situate in the parish of SAINT IVE, near LISKEARD, CORNWALL, and was worked upon by several poor experienced miners a short time since, to develope that which they felt convinced existed there—viz., rich copper ore. They drove an adit 70 fms. to hill, and sunk a winze 12 or 15 fms. under that adit to cut the lode, when to their dismay they were completely impeded by the large quantity of water issuing from the lode, they having only water-barrels to draw up the same; sufficient was, however, seen to know that rich yellow and black copper ore existed against the cross-course. There are seven lodes, well defined, and carrying the most extraordinary gossan that can be seen, with rich peach, prian, felspar, and ore, and every other qualification to convince miners that great riches exist beneath.

It is proposed that the mine be divided into 1536 shares, at FIVE SHILLINGS PER SHARE, being the first deposit, and the liability of each shareholder is not likely to exceed £4 per share, as it is not expected more than £1 per share will be required. The calls, so, are moderately fixed, not to exceed 5*s.* per share every two months.

A large number of the shares are already taken up.

Application for the remainder may be made to Mr. Thomas Sanford, Exeter; Mr. John Stephens, St. Ive, Liskeard; Mr. Edward Suter, Exeter; Mr. James Timewell, Exeter; Mr. John Seymour, St. Cleer, Liskeard; and Mr. Henry Yatcher, Exeter.

To the Committee of Caradon Vale Mining Company.

GENTLEMEN,—I beg to state that I have visited this mine, and have much pleasure in offering you my observations upon it. I find that one lode only is opened on by a shode pit, where it presents a most glittering appearance, being composed of very rich gossan, felspar, quartz, and beautiful white prian. The strata is a soft clay slate, and very congenial for mineral. I have not the least doubt but that this lode will be found productive when explored. No practical miner can dispute the favourable appearance of the lode. There are several lodes farther north, but only one has yet been wrought on, and that only to a small extent; this lode is driven on about 15 fms. west, and about 8 fms. east from the adit, which came in about 12 fathoms from surface; the lode in the western end is about 4 feet wide; I consider it to be an extraordinary lode. I never saw one more promising at such a shallow level; it is composed of gossan, being impregnated with rich black oxide of copper, spots of yellow copper, blue peach, felspar, and mundic; it also carries a small flookan on the foot wall. A cross-course in the western end intersects the lode, and the backs are all corroded over with copper greens, which indicates that the lode, as well as the strata, is most completely mineralised, and I have no doubt but that the lode will prove very productive, both east and west of the cross-course. At a few fathoms deeper there is a shaft sunk, about 14 fathoms under the adit, and a cross-cut driven, and the lode cut by means of a cross-course, which let down a great deal of water; and, from the want of machinery, the poor miners, who worked at their own expense, were obliged to abandon it, without having cut through the lode, so as to develope its size or quality. I consider the mine to be a most promising investment, and all who engage in it cannot fail to be rewarded richly for their enterprise; the mine, from its situation, can be worked easy, and at a small outlay. JOHN SPARGO.

Downgate, Stoke Climsland, Dec. 18, 1849.

CARADON VALE MINE.—Notice is hereby given, that NO FURTHER APPLICATIONS FOR SHARES will be received after Thursday, the 25th day of APRIL instant. CHARLES COLLINS, Purser.
Exeter, April 4, 1850.

PETER TAVY AND MARY TAVY CONSOLS COPPER MINING COMPANY.

Capital £2500, in 5000 shares, of 10*s.* each.

CONDUCTED ON THE COST-BOOK SYSTEM.

DIRECTORS.

HENRY GIBSON, Esq. | THOMAS FULLER, Esq.
JOHN CREFT, Esq. | WILLIAM WILSON, Esq.

BANKERS—London and County Joint-Stock Bank.

SECRETARY—Edward Underhill, Esq.

PROSPECTUS.

PETER TAVY and MARY TAVY CONSOLS is a COPPER MINE, lying next adjacent to the well-known Wheal Friendship, which has been a most profitable investment, returning upwards of £300,000 to the adventurers, and is at the present time paying large dividends. The lodes are a continuation, running through the Peter Tavy and Mary Tavy Consols—for which see the reports furnished by gentlemen whose practical experience and ability in mining operations is undisputed.

Although the capital stated above may appear small, it is pronounced by competent and experienced miners, to be ample, taking into consideration that upwards of £12,000 was laid out by the late Company, which stopped, owing to the difficulties of the largest shareholder, just as they were beginning to pay—all the benefits of which are secured to this company; therefore, it is confidently expected, that, if worked with spirit, considerable profits must be made before the end of the year, it being evident, from the geological situation, and mineral district of this mine, and by driving the adit east and west, a large quantity of rich ore will be produced, as the mine is favourable to the production of copper, being near the junction of the granite and killas, and on the run, or course, of the Wheal Friendship lodes.

Report of J. H. Hitchins, Esq., of the Devon Great Consols.

At the mine I met Captains Phillips and Dunn, and surveyed the whole of the sett and the adjoining property, with a view to ascertain how much of the latter it will be desirable for the company to obtain, in addition to what they already are in possession of. It appears, from the measurement this day made to ascertain the extent of the company's sett, that it is in length, from one extreme point to another, lineally, on the course of the lode about 600 fathoms, and in width about 250—that is the eastern side of the River Tavy. On the western side of the river the sett is less comprehensive, the length of it being about 100 fathoms, and the width about 50 on the underlay of the lode.

In viewing the sett generally, I have only to remark, that I consider it one possessing advantages of more than ordinary character; and as a mining investment, as good as any can be. The lode at present in the adit end, now driving east of the River Tavy, being the large masterly one of Wheal Friendship Mine, which has proved so profitable to the adventurers, from 4 to 5 feet wide, intermixed throughout with gossan, mundic, copper, peach, prian, and all the other characteristics in the term, kindly.

In the locality of Peter Tavy and Mary Tavy Consols are the following mines:—Great Wheal Friendship, which has divided upwards of £300,000 among the adventurers; Devon Great Consols, about £220,000 during the last five years; Bedford United, about £5000; Wheal Crebor made a profit of £35,000, and has now resumed working after a suspension of 21 years; Crowndale, and several mines in the immediate district, were worked with vast profit to the adventurers; Wheal Anderton, East Crowndale, Devon and Courtenay, Plymouth Wheal Yeoland, and Wheal Russell, at the present time, are being worked, under the most promising circumstances; whilst to the south-west will be found Tamar Consols, South and East Tamar, in a most profitable position. The promoters of the Peter Tavy and Mary Tavy Consols merely mention the above mines, to show that the sett is in a highly mineralised district; and when it is considered that the average of capital invested in the Devon and Cornish mines return dividends at the rate of 12½ per cent., the above may be fairly pronounced to be a first-rate adventure.

OFFICES—No. 18, CORNHILL, LONDON,
Where the books, reports, &c., and specimens of the ore raised, may be seen.

WILNECOTE, NEAR FAZELEY.—TO BE LET, on Royalty, extensive MINES of COAL, IRONSTONE, and CLAY, at Wilnecote, immediately adjoining the Midland Railway.—Apply to Mr. Parsons, Wilnecote.
March 21, 1850.

WANTED EMPLOYMENT, by a young man well acquainted with Mining and General Business. Security and reference can be provided.—Address "B.," at the office of the *Mining Journal*, 26, Fleet-street, London.

WANTED, in a Manufacturing Business and Iron Trade, a PARTNER, who can command from £6000 to £8000, and who may be actively engaged or otherwise. The business is well established, and in full operation, yielding good profits, and capable of considerable improvements.—Communications, addressed to "A. B.," 25, Basinghall-street, London, will have prompt attention.
None but principals will be treated with.

WANTED TO PURCHASE,—a 60 or 70-inch CYLINDER ENGINE, with or without boilers.—Particulars to be sent immediately to Mr. Edward J. Cole, 2, New Broad-street, London, stating the length of stroke in cylinder and shaft, when and where made, and where to be seen.

WANTED,—An ENGINE, about 20-horse power, to wind and pump, for a COAL MINE in SOUTH WALES.—Letters, with particulars, to be addressed to "A. B." care of the Editor, *Mining Journal*, 26, Fleet-street, London.

STEAM-ENGINE WANTED.—WANTED, a good Second-hand 35 or 40-inch Cylinder PUMPING-ENGINE (without boiler).—Particulars, with lowest price, to be addressed to the undersigned, JAMES CROFTS,
No. 4, King-street, Cheapside, London, April 5, 1850.

THE DIRECTORS of the PATENT ALKALI COMPANY are open to RECEIVE TENDERS for MUNDIC, containing not less than 30 per cent. sulphur, and 2 per cent. copper, in any quantity not exceeding FIVE THOUSAND TONS.—Samples (carriage paid), with prices, &c., to be forwarded to the Company's offices, 1, New Broad-street, London, before the 20th April, 1850.

By order, JOHN A. WEST, Secretary.

RUNNAFORD COOMBE MINE.—An excellent opportunity is now offered to any PERSON wishing to PURCHASE SHARES in the above valuable concern. Mr. CHENHALL has a FEW SHARES to DISPOSE OF, at £4 per share.—Apply to Mr. Chenhall, 4, King-street, Woolwich.

MINERAL PROPERTY.—TO BE DISPOSED OF, a valuable MINERAL PROPERTY, in the centre of the mining district of CARDIGANSHIRE, within 3 miles of the Llaburne Mines. The lodes of the adjacent mines run through the property, which contains upwards of 110 acres, with the right of working minerals on an additional extent of 500 acres beyond that cited as surface, which would be disposed of with the mineral rights. There is ample water-power, and the fee-simple of the soil, with minerals, will be disposed of by the proprietor.—Particulars may be acquired on application to Mr. Henry English, 25, Fleet-street, London.

A FEW SHARES in a RICH SILVER-LEAD MINE to be DISPOSED OF.—Applications to be made to Mr. Durrant, 58, Lombard-street.

MINING OFFICES, 3, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. T. P. THOMAS is a BUYER of SHARES in Wheal Seton, North Pool, Treviskey and Barrier, Condurrow, South Wheal Frances, South Basset, South Tolgus, Trelawyn, Mary Ann, Tolcarne, Tincroft, East Pool, Pendarves Consols, Lisburne Mines, Esgair Llee, and West Wheal Treasury; and is a SELLER in Penzance Consols, Bedford, East Gunnis Lake, Cook's Kitchen, Carn Brea, Wheal Comfort, Gustavus Mines, Nantoos, Camborne Consols, Court Grange, Bwich Consols, Stray Park, Tryphena, Wheal Margaret, Wheal Owls, Providence Mines, and South Trelawny.

T. P. THOMAS is generally in a position to BUY and SELL at close market prices, and he will be happy to give information as to prices, &c., upon application.

MINING PROPERTY.—Mr. HERRON has SHARES in the best DIVIDEND MINES FOR SALE, and which will give to the purchaser 17 to 25 per cent. for the outlay; amongst others are the following:—Great Devon Consols, Carn Brea, Wheal Trelawny, West Providence, South Basset, Treviskey and Barrier, Condurrow, Stray Park, Wheal Margaret, St. John del Rey, United Mexican, and Cobre Mines.—Mining Offices, 33, Clements-lane, Lombard-street.

MR. T. A. READWIN, MINING OFFICES,
2, WINCHESTER-BUILDINGS, OLD BROAD-STREET, LONDON.

MR. C. S. RICHARDSON, CIVIL ENGINEER, LAND AND MINING SURVEYOR.
No. 15, OLD BROAD-STREET, LONDON.

JAMES LANE, MINING SHARE DEALER,
80, OLD BROAD-STREET, LONDON.

BRITISH AND FOREIGN REGISTRY OFFICE.—PARTIES having MINERAL ESTATES, COLLIERIES, or MINES, FOR SALE, or SHARES TO DISPOSE OF, in DIVIDEND MINES, or OTHERS, by enclosing a list of the number and price of such shares, and particulars of such property, the same will be registered for sale, and commission charged only on sales taking place.—Money advanced if required.—Apply to Mr. DURRANT, 58, Lombard-street, London.

BLAENAVON IRON AND COAL COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the Shareholders of this Company will be HELD at their offices, Pancras-lane, London, on Friday, the 26th of April next, at One o'clock precisely, when the accounts and transactions of the past year will be laid before them. By order of the Board,
Offices, 4, Pancras-lane, London, March 28, 1850. JAMES BOOTH, Secretary.

CAMBORNE CONSOLS MINING COMPANY—NOTICE TO SHAREHOLDERS.—The SPECIAL GENERAL MEETING of the shareholders of this Company, advertised to be held on Monday next, the 8th inst., at One o'clock, at the Company's offices, 22, New Bridge-street, WILL NOT TAKE PLACE.

By order of the directors, H. L. T. VON USTER, Secretary.
22, New Bridge-street, Blackfriars, London, April 5, 1850.

IMPERIAL BRAZILIAN MINING ASSOCIATION, Winchester House, Broad-street.—The TRANSFER BOOKS will CLOSE on Monday, the 15th inst., and Re-open on the day after the General Meeting in May, of which due notice will be given. GEORGE THOMAS, Acting Director.
London, April 1, 1850.

RHYMNEY IRON COMPANY.—A GENERAL MEETING of the Proprietors of this Company will be HELD at the Company's offices, 7, Laurence Pountney-hill, on Wednesday, the 17th instant, at Two o'clock precisely, to receive the accounts of the past year, and on other business.

T. E. SCUDAMORE, Secretary.
7, Laurence Pountney-hill, London, April 4, 1850.

THE KINZIGTHAL MINING ASSOCIATION, 1, Adelaide-place, March 21, 1850.—The THIRD GENERAL ANNUAL MEETING will be HELD at the offices of the Company, 1, Adelaide-place, London-bridge, on Saturday, 20th April next, at One o'clock precisely. GEO. COPELAND CAPPER, Sec.

TINCROFT MINING COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders in this company will be HELD here on Wednesday, the 10th day of April next, at Three o'clock precisely.
Salvador House, March 13, 1850.

UNION TIN SMELTING COMPANY.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of this Company will be HELD at this office on Wednesday, the 10th April next, at Two o'clock precisely, when the half-yearly statement of the company's affairs, to the 31st Dec. last, will be submitted, and a dividend declared. P. WATSON, Secretary.
Salvador House, London, March 8, 1850.

EAST OF SCOTLAND MALLEABLE IRON COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders of the EAST OF SCOTLAND MALLEABLE IRON COMPANY will be HELD within the Town House of Dunfermline upon Thursday, the 22d day of August next, 1850, at Twelve o'clock noon, for the purpose of considering a proposal to DISSOLVE the said COMPANY, and to SELL and realise the whole PROPERTY and ESTATE, and FUNDS and EFFECTS of the Company, and finally to wind-up the Company's affairs—all in terms of the 37th clause of the Contract of Copartnery of the said Company.

By order of the Directors,
JAMES INGLIS, Chairman.
Dunfermline, Feb. 6, 1850. JOHN DRYSDALE, Interim Secretary.

IMPROVED WIRE ROPE.—The UNDERSIGNED, in tendering their best thanks for the liberal support they have hitherto received, respectfully solicit attention to the vast IMPROVEMENTS which new machinery and attention has enabled them to effect in the MANUFACTURE of ANDREW SMITH'S PATENT WIRE ROPE, more particularly his FLAT ROPE, which they can now produce of a description far superior to any previously offered to the public.

WILKINS & WEATHERLY.
Patent Wire Rope Works, 39, High-street, Wapping, London.

Original Correspondence.

DELAYS IN THE ENGLISH COURT OF CHANCERY—No. I.

THE BILL AND THE ANSWER.

Sir,—Having perceived, with great satisfaction, that a bill was lately introduced into the House of Commons by the Solicitor-General, Sir John Romily, for reforming the Irish Court of Chancery, I am induced to solicit a corner of your valuable Journal for a few remarks on the evils of the English Court of Chancery, arising from an imperfect system, rather than abuses resulting from any misconduct on the part of those engaged in the administration of justice; and I trust that no remarks which may fall from my pen will be deemed as aiding an outcry, which has so long and so generally pervaded this kingdom respecting the snail-paced progress of Chancery reform. It is far from my intention to deny the utility of "the most ancient and honourable court;" on the contrary, I consider it, *malgre* its practice, to be in principle admirably calculated to administer full, as well as it has ever dispensed impartial, justice; for truly has it been said by that ancient but erudite lawyer, Sir John Doderidge, that "it is a court of conscience, which giveth comfort, considereth all the circumstances of the fact, and is, as it were, tempered with the sweetness of mercy; it mitigateth the rigour of the common law, and leaving the inflexible iron rule, taketh the leaden Lesbian rule, and issueth this sentence full of comfort to the afflicted—'*Nullus recedat a Cancellaria sine remedio.*'"*

The great complaints against the Court of Chancery are the *delay and expense* attending a suit in that court, and these are undeniable concomitants of a suit in equity, from its institution to its end.

The commencement of a suit in equity is to file a bill of complaint, stating the circumstances of the case; and it may, perhaps, be well to notice here, for the information of your non-professional readers, that a bill in equity is constituted of nine distinct parts, &c.—viz.: the address, the introduction, the premises, the confederating part, the charging part, the clause of jurisdiction, the interrogating part, the prayer for relief, and the prayer for process. Hence (as Lord Redesdale has observed) the indiscriminate use of these parts of a bill, in all cases, has given rise to the common reproach, that every bill in equity contains the same story three times told.† But however clearly and concisely these circumstances may be stated by the equity draftsman, the bill need not be answered under six weeks or two months; and on application to the Master (here the suitor, at almost the first stage, is dragged into "the Master's office"), six weeks or two months longer time is granted, almost as a matter of course. I will not pause to inquire, Sir, why six weeks or two months should be granted to answer the claim of a complainant, who must have, as he alleges in his bill, frequently and unsuccessfully previously preferred his claim to the defendant; but I may fearlessly ask, why should six weeks or two months in addition be granted to a party who is unable or unwilling to answer, and who only seeks delay? These evils have been for years frequently commented upon, Sir, by many powerful pens; and I cannot, perhaps, better illustrate the matter-of-coursism with which delay is, even in the first stage of a Chancery suit, usually looked upon, than by citing from a number of an able contemporary journal the following comments on a case which occurred a few years back in the court of that erudite, impartial, and independent equity judge, Vice-Chancellor Knight Bruce.

The delays of equity, "the glorious uncertainty of the law," and the "vexatious delays in Chancery," have been frequently animadverted on: and we are pleased to perceive that these grievances, so truly discreditable, to say the least of it, to the administration of justice, are beginning to be noticed by the advocates and practitioners of the courts. From the following colloquy, which recently took place in the Vice-Chancellor's Court, it would seem that an allegation of delay excites rather risibility than surprise. In the case of "Towne *v.* Bonning," the defendant's counsel having applied for further time to file the answer, the plaintiff's counsel said—

The defendant advances the old allegation—namely: that he has a good defence to this suit. If so, why has he not, ere this, put his excellent defence on the file of the Court? And not having done so, how can he now have the presumption to come to this Court and ask its indulgence, after having delayed the plaintiff in the legitimate prosecution of his suit nearly three months?

Vice-Chancellor K. Bruce: Can a Chancery suit be said to be delayed, because the bill has not been answered in three months? (Laughter.)—Counsel: I consider, your Honour, that if a bill be suffered to remain unanswered one day beyond the period prescribed by the orders of the Court, it is a delay, and a most unjustifiable delay.

Vice-Chancellor: So do I; but I fear that is not the generally entertained opinion.—Counsel: To the discredit of the Court of Chancery, I believe that there are bills on the file which have remained unanswered for years.

Vice-Chancellor: Let the defendant pay Mr. Egan's client all the costs of, and incidental to, this application, and also all the costs incurred by his contempt in not answering. Let the defendant file his answer without further delay, and let the cause proceed forthwith.

With much truth, indeed, did his Honour assert that such delays were a perfect denial of justice, and ought not to exist. But of what use are such remarks, or animadversions, even from so high a quarter? It is not at all new to find judges passing censure on the laws which they are themselves called on to administer. The fault lies with the Legislature, which appears to look with a reverential awe upon everything connected with the Court of Chancery. Abuses of the grossest and most flagrant kind are allowed to remain, and apparently for no other earthly reason than because, as Burke said of the British constitution, they are "covered with the awful hoar of innumerable ages." Let us hope that something will, ere long, be done to reform such crying evils.‡

Here, Sir, it is apparent that, were it not for the discrimination and determination of an enlightened judge, an objection to a defendant not answering in a reasonable time would have been scouted as ridiculous in the High Court of Chancery; but what can a solitary judge, however well-intentioned, do in matters that are the peculiar province, and, in my opinion, the bounden duty, of the Legislature? What has been done to amend such evils since?—Nothing! But let us hope, Sir, that the bill of Sir J. Romily (that lustrous son of an illustrious sire), a measure which has a larger and wider bearing than a mere application to *Irish* interests, may prove the precursor of a reformation in that "legal Inferno—that Moloch of unfortunate suitors—that curse to hundreds of thousands—the system pursued in the *High Court of Chancery in England.*" I have, Sir, thus glanced at the bill and the answer. I have shown that the first step in equity precipitates plaintiff and defendant into "the Master's office." Should you so far indulge me, I will, at no distant day, glance at "Parties to a suit in Chancery."—A Voice from Lincoln's Inn: *April* 2.

* *The Lawyer's Light.* A.D., MDCXXI., p. 175.
† Mitford's *Treatise of Pleading in Equity*, p. 47.
‡ *Monmouthshire Merlin*, 27th March, 1847, and see *S. C. Coll. Ch. Reports*, p. 45.

TREATIES OF COMMERCE AND THE PATENT LAWS.

Sir,—After the objections which have been so ably stated by "T. T.," in the Journal of 16th March last, it is quite unnecessary for me to say anything further against the system proposed in the papers bearing the above title; but I must, nevertheless, be allowed to correct a mistake in the paper No. IV., published in the same Number of the Journal, where it is stated that "*four-fifths* of the sum exacted for a patent is paid, not to the public, but its officers, who have already large incomes without this very considerable and most improper addition. The cost of a patent—or rather the *three patents* for the same thing, and within the same jurisdiction—is, in round figures, 300*l.*; of this little more than 60*l.* (the stamp duty) is paid into the public Exchequer. Supposing, therefore, 1000 patents to be granted in one year, no less an amount than the enormous sum of 240,000*l.* would be divided annually amongst either sinecurists or well-paid public servants."

Now, what is the fact? In the first place, patentees are *not obliged, as it seems to be supposed,* to have their rights extended to the three countries—England, Scotland, and Ireland; and the industrial condition of the latter country being very low, only a few patentees do extend their rights to it. In point of fact, the number of patents for England may be taken as 500 per annum; Scotland, 250 per annum; and Ireland, about 80 per annum. With regard to the English patent, the official and Government dues and stamps amount to something under 100*l.*—say that sum. Of this about 62*l.* goes to the public Treasury; whilst a large portion of the remainder goes to the attorney or solicitor-generals, who do all the real work in passing the patent. With regard to the Scotch patent, the Government and official dues and stamps amount to about 65*l.*, of which not less than 25*l.* goes to the public Treasury. In Ireland, the amount of Government and official dues and stamps is about 120*l.*, of which about 50*l.* goes to the public Treasury; and this is certainly more than one-fifth of the total amount to the public, as stated. The supposition that only the sums paid as stamp duty go to the public Treasury is a very common one—it not being known that the emoluments of several abolished clerkships of the signet, and other officers, together with the fees paid to her Majesty, go to the Consolidated Fund.

Mr. David Mushet, in the Number for 23d March, in support of my former communication, shows the futility of making the reward of inventors to depend upon the *ipse dixit* of Government commissioners; and what he there says, in reference to the proposed system, will apply equally well to any system where the patent right is only granted at the *option* of *Government commissioners*, examiners, or what not, instead of being granted *at the risk of the patentee.* It is nothing new to tell us of the many inconveniences of the present system. They are well known; but how great soever they may be, they are nothing in comparison with the mighty evils that would flow from the system of granting patents, or other rewards, only at the option of Government officials.

I am quite willing to admit that the multiplication of patents for useless things requires a check; and thus it is that I have always been dubious as to the propriety of reducing the absolute cost of patents to a trifling fee, and I am now more so than ever; at the same time, the present mode of paying for patents is very oppressive, inasmuch as poor inventors have little or no chance of success afforded them.

I have, therefore proposed, in a former number of the *Mining Journal*, not actually to reduce the cost of patents, but merely to alter the mode of payment, so that a party may apply for a patent, paying a small sum, and the day of such application will be the date of his patent, should it be ultimately granted. The completion of his patent and specification he may then put off for a stipulated period—say, nine months—during which he will have a provisional title to patent rights, and may, with safety, test and exhibit his invention, and negociate for the assistance of the capitalist. This measure is one approved of by all inventors and patentees to whom it has been submitted; and it appears to me that this great advantage would be obtained for the public by its adoption—that inventions would be tested, before completion of the patents for them, and if found wanting would never add another stumbling block to the patent list; and, I think, we may safely augur, that in this age of enterprise the invention must be worth very little that would not find a capitalist willing to join in securing the patent, upon its being properly laid before him. At the present time, poor inventors seek the aid of capitalists, so to speak, with their candle hid under a bushel, being afraid to exhibit it, seeing they have no protection for it; and beyond this difficulty there is another—viz., that until protection is obtained, they have really nothing tangible to dispose of. This alteration of the law could be carried out with little or no derangement of the present machinery for passing patents, and without loss of revenue; and, therefore, I intend to press it on the attention of the Government and the Legislature, and am preparing another petition to Parliament to that effect.

Strand, April 4. F. W. Campin.

GODWIN AND CHANNEL SANDS—LIGHTHOUSES.

Sir,—It is nearly four years since my plans were inspected by the Elder Brethren of the Trinity House, for the construction of a lighthouse on the Godwin and other sands in the Channel, and since that period upwards of 400 lives have been sacrificed, and not less than 150,000*l.* worth of property swallowed up by these dangerous sands—a loss amounting to infinitely more than would have studded both the Godwin, Toungue, and other sands, with suitable lighthouses and proper signal apparatus, to warn vessels of impending danger. The columns of the *Mining Journal* will attest that I was the first who proposed to penetrate through these sands with wrought-iron cylinders, and on the solid formation beneath to lay the foundation for a lighthouse. On submitting my plans to the Trinity gentlemen, they did not attempt to disapprove of the principle; on the contrary, detained the papers descriptive of the project. These documents were "shelved" for a time, but they subsequently directed that some experiments should be made, in order to ascertain the depth of the sands, and which was found to be not more than 80 feet; since which nothing more, that I am aware of, has been done. In the absence of actual experiments, I prepared the plans, on the supposition that the sands were 70 ft. in depth, so it will be observed that I was only 10 ft. out of my calculation. The project has been approved of by the highest engineering authority in this country, yet it would appear that our merchants are more willing to sacrifice their hundreds of thousands of pounds per annum, besides the accompanying fearful loss of life, than the Government to spend 20,000*l.* in the erection of a lighthouse, for the protection of their property. Surely these continual disasters will, in time, bring to their senses those parties who have the management of these matters. G. Shepherd, C.E.

London, April 4.

THE SEWAGE OF THE METROPOLIS.

Sir,—The report of the Select Committee upon the sewers of the metropolis having honoured Mr. M'Clean's scheme, by placing it at the very head of the list of suggestions, I have had the curiosity to analyse pretty closely its principal features, which I find to consist of three main arterial lines of tunnel, varying from 10 to 15 feet in width. One line extends eastward from the neighbourhood of King's-cross to Islington, Victoria Park, and ends at the Thames below Blackwall; another is to extend from Westminster, down Fleet-street, skirting the river to the same outlet; a third is to cross under the River Thames from Westminster, by an iron syphon, to the Surrey side, then to pass in a deviating line through Kennington-common, King's-road, at Deptford, &c., till it makes its exit also into the Thames at the Bugsby Marshes. Other collateral tunnels, in all nine, constituting a total length of upwards of 30 miles, and the author's estimate of the expense is 50,000*l.*, which the committee assure us is entirely inadequate to the required expenditure. The rate of descent is *stated to be one foot per mile*, which the author thinks quite enough to convey the filth of the metropolis. At present all the sewage of the metropolis is discharged directly or indirectly into the Thames, or sticks by the way, because of the want of flushing power; whence, therefore, is Mr. M'Clean to derive such a continual supply of water? He mentions, indeed, the Thames, the Regent's, and Grand Junction Canals, but then it is to be performed "without the assistance of any machinery;" therefore, if such ample supplies of water are at hand, why so puzzled about new schemes, instead of applying at once the flushing system. To drive the contents of the ramified sewers into his tunnels, immense supplies of water must be requisite, and are we prepared to expect that the canals will yield up waters which they require for their own commerce? The practicability of the sewage discharging at anything like a foot to the mile has been often questioned; therefore, if impracticable, his tunnels would become so deep, that immense pumping power would be required to raise those torrents of water necessary to fill and cleanse the tunnels.

If, then, Mr. M'Clean's tunnels are merely for the purpose of discharging the sewage into the Thames at Blackwall, instead of higher up the river, being first saturated by an immense increase of flushing power, it may well be questioned whether the scheme is worthy the place it holds in the commissioners' opinions. But have the special committee of the commissioners placed the plan at the head of the list, and supported it by their unanimous recommendation? No such thing, whilst they pour upon it high encomiums for being "the best conceived and most practical scheme." They show that it is deficient in the following important particulars:—"That portion of the metropolis lying on the north margin of the Thames, between Charing-cross and Shadwell, for which sufficient provision does not seem to be made, as no other expedient but pumping that would seem to be applicable." Whether to pump in water, or pump up sewage, we are left to guess. The committee further condemn as impracticable the mode of cleansing the lower districts of Westminster, "by carrying an iron syphon across and underneath the Thames at Vauxhall-bridge." The committee, after lauding the ingenuity of the author, conclude—"It is an important feature of the plan that, except in the instances above referred to, the drainage is effected without the use of pumping, and it is not improbable that the main features will be found in accordance with the principles which it will be deemed proper eventually to adopt."

Now, the "main feature" of the whole scheme is, that a fall of *one foot per mile* (his principal tunnels being each more than eight miles long) will suffice for conveying and discharging the sewage into the River Thames at the River Lea, without the aid of machinery. Then his mode of cleansing Westminster is condemned, as well as from Charing-cross to Shadwell. A writer in your last week's Journal alleged, and with much of which I cordially concur, that the required fall would be 18 feet instead of 1 foot per mile, in which case the whole scheme would be impracticable. Then the breaking up of "the iron syphon" project leaves the Surrey side also unprovided for; so that we have no less than four signal objections stated by the special committee against their very best scheme. The special committee are highly professional, and undoubtedly their professional reputation will be pledged before an invidious public, and the responsibility of patronising any scheme that would cost a million of money may well make them pause.

The *Times* says truly, that the great question is the outfall, and an adequate supply of water. If the outfall cannot be carried away from the Thames, then away with all those grand tunnel projects; and let us betake ourselves to some simple, cheap, and efficacious mode of flushing and cleansing the present appliances; for any theory having for its object the removal of the filth of London away from the Thames must be attended with such incalculable cost of time and money, as will never be supported even by the wealth of London.—An Observer: *April* 2.

Chambroy's Patent Helical Railway.—The patentee proposes to lift loads or water in mines, and to apply the same principle to lift railway carriages from one line of rails to another on a higher level. For this purpose, a line of rails is arranged in a helical manner in the shaft of the pit, on which runs a platform on three wheels fixed at different levels. A vertical grooved shaft passes through the centre of this platform from the top to the bottom of the shaft of the mine, and receives rotary motion from any prime mover. The platform is furnished with a bolt which may be slidden into the groove in the shaft, and a rotary motion thereby imparted to it. Upon the platform rest the wheels of another one, which is fitted with guides that embrace rollers fixed to the sides of the pit, and thereby prevent its revolving. And upon this second platform is placed the load to be lifted. On rotary motion being given to the vertical shaft, the under carriage will also revolve, and travel up the helical railway. By reversing the motion of the shaft the loads will be lowered. Instead of the preceding arrangement, it is proposed to place a number of rollers, arranged in a helical direction, in the shaft of the mine, over which travels a helical projection on the periphery of a cylindrical carriage, which is moved up or down a rotary shaft in the same manner as the second platform first described.

Fire-Bricks for Furnaces.—The *Morning Chronicle* Commissioner, in his letter from Merthyr Tydvil, gives an account of a curious branch of industry carried on there—viz., the making of fire-bricks for lining the furnaces, and, indeed, for all other purposes where a material is required capable of withstanding intense and long continued heat. There are two substances, found in abundance in the coal and iron districts, which have the property of resisting, in a high degree, the action of fire; the one is termed "fire-clay," a stratum of which is often overlaid by coal—the other is the "farewell rock," a species of stone composed of quartz, blended together by a siliceous cement. Upon this rock repose the whole of the coal and iron-stone "measures." The bricks are used for lining the interior of the blast-furnaces down to "the hearth," or receptacle of the fluid iron, which is always constructed of the stone. Experiments on bricks made of this fire-clay have satisfactorily shown that its capacity of resisting heat is fully equal to that of the better known, and more generally used, fire-bricks of Stourbridge. The manufacture of fire-bricks at these works is exclusively carried on by women, and a more humiliating and ungenial occupation for the sex is hardly to be found through the entire range of our industrial economy.

Red Colour for Paper-Hangings, &c.—It is proposed to employ the red chloride of chrome for the production of an intense red violet colour, possessing metallic lustre, proper for printing or staining paper. This product is prepared, as is well known, by passing a current of dry chlorine gas over a mixture of powdered charcoal and calcined oxide of chrome, enclosed in a glass tube. Attention must be especially given in this operation to the fact that, by reason of the difficulty of volatilization of the product, the chloride prepared by a first operation remains mixed with the powdered charcoal. It is, therefore, requisite to submit this mixture of charcoal and chloride of chrome to a second operation, taking care to cover the bottom only of the glass tube with it—in which case the product will be sublimed in the upper part of the tube. The heat of an Argand lamp, the flame of which is brought gradually upon the tube, will suffice for the formation of the chloride, which soon appears in the form of brilliant micaceous peach-coloured spangles. The chloride is then ground in a mortar, and thickened with a mucilage of gum. On being laid upon paper it will display its original colour, and will resist the action not only of acids and alkalies, but also the direct action of the solar rays.

Oxide of Zinc.—A communication has been made to the Customs' authorities by the secretary to the Lords Commissioners of her Majesty's Treasury, stating that he has received the commands of their lordships to transmit to them for their information a communication from the Board of Trade on a memorial, praying that a material denominated grey oxide of zinc may be henceforth imported into the United Kingdom without payment of duty, and that he was directed to state that their lordships of the Treasury at present concur with the Lords of the Committee of Privy Council for Trade, in considering that the article in question should be admitted free of duty. It was, however, the wish of their lordships that it should be understood by the commissioners, that if it should appear to them that there is any substantial difference or distinction between white oxide of zinc (which is already by Treasury order admissible free of duty), and grey oxide of zinc, their lordships would be prepared, upon being furnished with adequate information from scientific persons upon the subject, to re-consider their decision. It appears from competent authority, that the material is an impure oxide of zinc, produced during the process employed for extracting metallic zinc from the ore, and that the grey colour which it bears results from its admixture with portions of coke placed with the ore in the retorts used for the smelting process, and that the only preparation to which the substance thus obtained is then subjected to, consists in crushing and sifting it, and on consideration of the matter by the Commissioners of Customs, it has been directed that in future grey oxide, equally with white oxide of zinc, is to be admissible duty free.

Wilful Obstruction of Railways.—It is a somewhat singular oversight in our railway legislation that punishment for the wilful attempt to throw trains off the lines is nothing like adequate to the offence, where the lives of, perhaps, hundreds are wantonly endangered. A case has just occurred in France, which shows in a remarkable manner in what degree such a crime is looked upon in that country. An individual, named Chabot, has been sentenced by the Court of Assize of the Indre et Loire, France, to solitary confinement for eight years, and to remain during his life under the *surveillance* of the police, for having endeavoured to throw a railroad train off the rails by placing large blocks of wood across them.

Conviction for Pirating a Registered Design.—Some few weeks since, Messrs. Davenport and Hendren, floor-cloth and table-cover manufacturers, of Benacres-street, Birmingham, appeared before the magistrates to answer an information laid against them by Mr. W. Inigo Jones, Japan table-cover manufacturer, of Berkeley-street, of the same place, for pirating a design for the ornamentation of a table-cover, registered by him. The magistrates did not then think the charge supported, and dismissed the case. Thereupon Mr. Jones took out another information; and on Monday last the parties appeared at the office—the magistrates being Messrs. Wills and Sargent. The evidence relied on by defendant, was that the vine-leaf and grapes of which the design was composed, had been used in ornamentation hundreds of years ago; but none of the witnesses could swear they had ever seen them arranged like the registered pattern. The magistrates decided that there was nothing to show but that the design was an entire new arrangement, and fined Messrs. Davenport 10*l.* and costs.

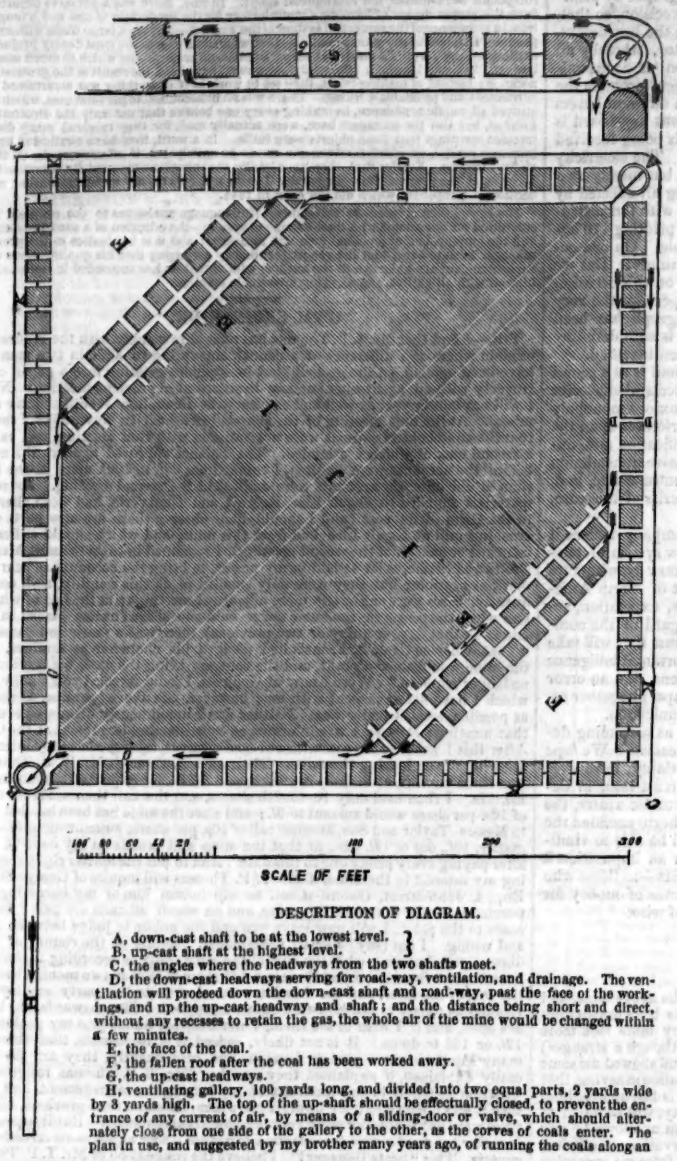
Important Improvements in Printing.—An improvement in the typographic art, which promises to revolutionise it, has lately been introduced to public notice by several of our contemporaries. It seems that a process of stereotyping was some time since discovered, by which a more perfect stereotype could be produced in much less time, and at a smaller cost, than by the ordinary method. Instead of using plaster of Paris to cover the surface of the orginal types, and form the mould for the stereotype, *papier mache* is made use of; and into the mould so formed is run the stereotype metal, which is of peculiar character; and cylindrical plates of stereotype are quickly produced, which are very soon fit for printing from; and from these the copies are printed off, by the aid of much improved machinery, upon endless paper, not previously damped, placed on rollers—each copy being cut off with mechanical precision. This invention, which is patented by a French gentleman, named Worms, was recently tried in Paris, when the stereotype cylinder was got up in five minutes; and the speed with which copies were printed off from it was 15,000 per hour, which, it is said, can be augmented by corresponding steam-power. It has been objected against this process that it could not produce a stereotype plate of equal thickness throughout—this being the great drawback to the present stereotype process; but, however true this may be as regards the ordinary process, M. Worms distinctly repudiates its application to his invention. It has also been objected to this invention that it cannot be used with useful effect for newspapers, or other publications, where the matter may be required to be altered at the very last moment—may be, during the printing of the copies; but even this difficulty can be obviated, as a piece of the stereotype can be cut out, and a new stereotype substituted with little difficulty, and in an incredibly short space of time. As the original moveable types will only be required to be set-up, in order to procure the stereotype therefrom, and from this the printing will be taken, there will be a great saving in the wear and tear of such types, which are very expensive; whilst the materials used for the stereotype will cost comparatively little. It appears that Messrs. Gray, of the *North British Advertiser*, having inspected this invention in Paris, have determined on adopting it.

THAMES TUNNEL COMPANY

The number of passengers who passed through the Tunnel in the week ending March 30, was—No. of passengers, 59,251.—Amount of money, £246 17s. 7d.

A Dangerous Wound in the Thigh Cured by Holloway's Ointment and Pills.—About three years ago, Mr. Acton, of Melbourne, had his thigh most fearfully lacerated when out riding, his horse running away, and his leg coming in violent collision with a wall. He was confined to his bed for nearly 18 months, suffering from the accident; and, notwithstanding the best medical advice, every effort proved unsuccessful in healing the wound, and his health became so impaired that his life was despaired of. In this state he commenced using Holloway's Ointment and Pills, which had the effect of healing his wound with wonderful rapidity, and restoring him to sound health. Sold by all druggists, and at Prof. Holloway's establishment, 244, Strand.

IMPROVEMENTS IN VENTILATING COLLIERIES.

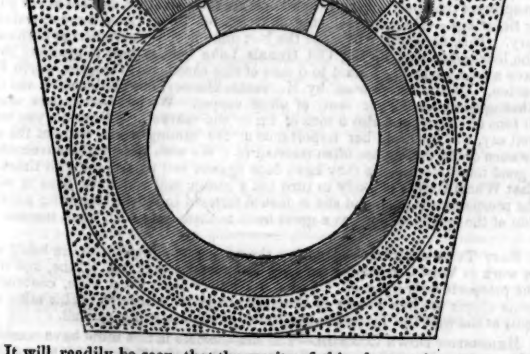


DESCRIPTION OF DIAGRAM.

A, down-cast shaft to be at the lowest level.
B, up-cast shaft at the highest level.
C, the angles where the headways from the two shafts meet.
D, the down-cast headways serving for road-way, ventilation, and drainage. The ventilation will proceed down the down-cast shaft and road-way, past the face of the workings, and up the up-cast headway and shaft; and the distance being short and direct, without any recesses to retain the gas, the whole air of the mine would be changed within a few minutes.
E, the face of the coal.
F, the fallen roof after the coal has been worked away.
G, the up-cast headways.
H, ventilating gallery, 100 yards long, and divided into two equal parts, 2 yards wide by 3 yards high. The top of the up-shaft should be effectually closed, to prevent the entrance of any current of air, by means of a sliding-door or valve, which should alternately close from one side of the gallery to the other, as the corves of coals enter. The plan in use, and suggested by my brother many years ago, of running the coals along an inclined railway, from the mouth of the pit, should be made available for ventilating the mine, the gallery serving as an immense pump: thus to each carriage for conveying the corves should be attached a frame and door, fitting exactly each separate division of the ventilating gallery, and while one carriage is going down one division full, another will be drawn up empty—thus maintaining a constant current of 600 cubic yards a minute by the alternate conveyance of full and empty carriages, without any expense for pumping off the foul air.
I, the field of unworked coal.
J, a line of coal which should be left at the completion of the works.
K, line of pillars to be left, and having stoppings between, they will serve as one portion of the headway in forming a new mine.

Fig. 2.—Enlarged diagram of down-cast shaft, and commencement of headways.

We have received from Mr. JOHN MARTIN, K.L., who has long been connected with coal mines, and who has well considered the most efficient modes of ventilation, the details of a plan proposed by him, and which he considers would prove thoroughly effective, in putting an entire stop to accidents and loss of life by explosions of carburetted hydrogen. As the plan is certainly simple, we present it to our mining readers with diagrams, leaving them to judge of its efficiency. After some judicious remarks on the Davy lamp, as not to be depended on, Mr. Martin shows that the result of all his enquiries and experiments only establishes the conviction, that there is no remedy but such a thorough system of ventilation as would render it safe to use common candles, or gas lamps, to light the workmen; and the following plan embraces this advantage, together with efficient drainage—greater safety during many of the mining operations—and superior economy in working the mine. Assuming the field of coal to be unworked, it is proposed to form a parallelogram, or a square of any size, say half a mile on each side, or two miles round the whole mine, as follows:—From the bottom of the down-cast shaft, two ways should be formed running close by each other, the one to go, and the other to return, till the first half is attained; these ways should then turn at a right angle to the left for another half-mile to the up-shaft; this should be repeated on the left hand of the down-shaft, completing the square, and obtaining a free current round the whole mine, from the down to the up-shafts on the right, and the same on the left. To facilitate the working of this mine, the two shafts should be commenced at the same time, and the ways would thus meet each other at the intermediate angles; after which the coal should be cut away from the corners between the shafts, care being taken *never to enter the main body of the coal.* In some places it would be necessary to work by means of two and perhaps three rows of pillars (*see plan*), but the whole of the coal should ultimately be removed, excepting the row of pillars next to the surrounding gallery or outside way, which will be of value in protecting the drain, and likewise in working the next square mine when the first is exhausted. Gunpowder might safely be used with this plan, as the current of fresh air would continue to sweep the face of the works, and as fast as the gas discharges, it will be carried away by the ventilator at the up-shaft. As the open space behind the works become wider, the support being removed, the roof will fall in, and close up the void; but it would be of no consequence if this were not entirely closed up, since the higher end of the goaf would always be nearest to the ventilating gallery, the hydrogen gas escaping by a short and straight line to the up-shaft, and the water and carbonic acid gas running off by means of my patent tube drain to the well at the down-shaft, and thence pumped out (*see plan.*) Thus would be obtained the shortest, simplest, and straightest way to ventilate, drain, and carry off the coal, without danger to life from explosion, or choke-damp, or chance of destruction of property; without trap-doors or men to watch them, without the necessity for inducing men to work by means of a pretended safety-lamp; and last, and of no small importance to the coalowners, without viewers paid a heavy centage for working dangerous parts of the mine. Wherever a new mine is to be opened it should be upon this principle; though it is not absolutely necessary to form an entirely new mine for the purpose, as the principle can be applied at once to an old one, without any practical difficulty.



It will readily be seen, that the merits of this plan are its extreme simplicity and completeness, that it is in no way dependent on mechanical means of drawing off, or forcing in air, but that the great ends of ventilation, drainage, and rapid removal of the coal, are attained by maintaining a short and unimpeded passage between the down and up shafts, the whole current of air sweeping invariably past where the men are working. Thus it would substitute for the present complicated labyrinths, the numerous recesses and immense goafs which retard and prevent the escape of the foul air (to say nothing of the imperfect boardings, stoppings, and trap-doors, and similar costly machinery), a simple, comprehensive, and economical system, which affords one mile of perfect safety and free circulation of air, instead of 100 miles of intricate labyrinths, containing every horror and danger of explosion and suffocation.

We have also received from Mr. Martin several other pamphlets—one the outline of a comprehensive plan for diverting the sewers of London and Westminster from the Thames (a question which has lately undergone so much discussion by the Commissioners of Sewers and the Sanitary Commissioners, for a supply of pure water to the metropolis); a reprint of the report of the committee appointed in 1836, for considering Mr. Martin's plan for rescuing the Thames from every species of pollution; also a Thames and metropolis improvement: and as they all bear so closely on the comfort and health of the inhabitants, we shall refer to them on another occasion.

"THE WAY IN WHICH THE MONEY GOES."—On Monday, in the course of a trial at the Yorkshire assizes, it became a question as to what was a proper charge to be made by a railway engineer for his "professional" services, and an eminent engineer in that county was asked how much he charged per day as consulting engineer. The reply was, "That varies from 10 guineas to 100, according to circumstances." (Laughter.)

KNOTTINGLEY AND BURTON SALMON RAILWAY.—This line is now completed, and on being inspected by the Government officer will be opened.

THE LANDORE COLLIERIES, SOUTH WALES.—Mr. W. P. Struvé, of Swansea, has just completed a highly-finished model, which has been constructed for his grace the Duke of Beaufort, the owner of these collieries, embracing the whole of the bituminous and most part of the free-burning coal-field north and west of Swansea, at present opened out. The model was submitted to the Literary and Scientific Society by Mr. Struvé, who, after explaining that the Pennant rock, which is upwards of 3000 feet thick, forms the base of the group of seams represented in the model, and that the probability was that its great thickness precluded its ever being penetrated so as to reach the lower thick coal measures of the South Wales coal-field, owing to the high temperature of the earth which would prevail at that depth, if from no other cause of an engineering character. He proceeded to describe the surface of the model, the boundary lines of which are the Kilvey-hill and the River Tawe, and Forest Marsh on the east; Morriston to the River Lliw, near Penlle'rgare, on the north; the flank of the Town-hill on the south; and Messrs. Glasbrook and Richard's colliery, the Weig Fach, and Mynydd Newydd collieries, on the west; within which limits the hills, valleys, and undulations of the ground appear faithfully represented. The model uncovers at the five-feet seam, and at once exhibits the extent to which the coal has been worked, and what still remains unwrought; it likewise separates at the six, three, and the two-feet seams, on which are instituted the great Landore collieries, belonging to his grace; and here the model explains these collieries, being at the bottom of the basin, how the water from the surrounding collieries will flow through the various artificial channels to the lowest level. And here, again, as each seam is uncovered, it displays the extensive excavations which have taken place, and the extent of what remains still unwrought. The last uncovering is Hughes's seam, which reposes on the Pennant rock, and forms the base of this valuable group of coal seams. We are glad to perceive that this vast plane of valuable coal has, as yet, been but slightly worked at the Gorse, Weig Vawr, and Millbrook Collieries, and we do not doubt that the successful prosecution of these collieries must eventually lead to deep pits being sunk, so as to win and work the extensive flat full of coal represented to exist in Hughes's, and the other seams, which is so well illustrated by this model. There are five principal faults shown, which, with the flattening of the steep measures, are striking geological features. According to Mr. Struvé's calculation, there appears to be still unwrought coal within the district, represented by the model, which averages about 25 feet thick,—of bituminous coal, 33,000,000 tons; of free burning coal, 36,000,000 = 69,000,000 tons; which, at 210,000 tons per annum (which he stated to be about equal to the total annual shipment of every description of coal at Swansea), would last upwards of 300 years.

DIRECT EXETER, PLYMOUTH, AND DEVONPORT RAILWAY.—Master Sir. W. Horne has settled the list of shareholders in this company to the extent of 500, who are all held liable.

THE UNION BANK OF CALCUTTA.—The petition for the winding-up of this company's affairs states that it was started to carry on the business of banking in Calcutta, with an agency in England. By the Deed of Settlement of August, 1839, it was provided that the company might issue promisory notes for any sum of not less than eight company's rupees, and not exceeding 1000 company's rupees. The capital was to be 10,000,000 of company's rupees, equivalent to 1,000,000*l.* sterling, in 1000 shares. An extensive business was opened in Calcutta, and transactions to a large amount were carried on with parties resident in England, and amongst others with the banking firm of Messrs. Glyn, Halifax, and Mills, of Lombard-street, who claim to be creditors to the amount of 300,000*l.* About 60 of the shareholders are resident in England, and the petitioner, W. Pilkington Watson, of Rock Park, Cheshire, states he took 15 shares, for which he paid 1500*l.* to the capital stock, and a further sum of 300*l.* in respect of one call. In 1847 the bank became embarassed, and suspended payment, and its assets were found insufficient to pay off liabilities. The shareholders declined to pay calls, and others, who advanced monies to the company by way of loan, were unable to obtain payment. Creditors obtained judgments against the public officer of the company, and these were put in suit against individual shareholders in Calcutta. Messrs. Glyn had issued out a writ of summons against the petitioner to enforce payment of 5000*l.* An executive committee of the Calcutta shareholders had been formed to treat with creditors; but as an equitable rateable assessment of the shareholders could not be struck, some being fixed at 3000*l.*, and others at only 300*l.*, in respect of their shares, nothing had come of it. An order has been issued by the Court of Chancery, directing Messrs. Borrodaile and Dimsdale, solicitors to the estate, to serve process on the parties in Calcutta, under the Joint Stock Companies' Winding-up Act.

IMPERIAL BANK OF ENGLAND.—Master Farrer has appointed Mr. Soulsby, accountant, official manager to investigate and wind up this company's affairs, for which purpose creditors have been called on to come in and prove their debts.

COMPLETION OF THE RAILWAY ARCHES ACROSS THE TWEED.—On Tuesday the key-stone was placed in the last arch of the railway bridge which for three years past has been in course of formation, for the purpose of connecting, by a permanent way, the Berwick and Newcastle and North British Railways. The occurrence was observed with due ceremony, and came off with great *eclat.*

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Asiatic—5, New Burlington-street	2	P.M.
MONDAY	Geographical—3, Waterloo-place	7	P.M.
	British Architects—16, Grosvenor-street	8	P.M.
	Medical—3, Bolt-court, Fleet-street	8	P.M.
TUESDAY	Medical and Chirurgical—53, Berners-street	8½	P.M.
	Civil Engineers—25, Great George-street	8	P.M.
	Zoological—11, Hanover-square	3	P.M.
	Syro-Egyptian—71, Mortimer-street, Cavendish-square	7½	P.M.
WEDNESDAY	Geological—Somerset House	1	P.M.
	London Institution—Finsbury-circus	7	P.M.
	Graphic—Thatched House Tavern	8	P.M.
	Ethnological—17, Saville-row	8	P.M.
	Literary Fund—73, Great Russell-street	2	P.M.
THURSDAY	Royal—Somerset-house	8	P.M.
	Antiquaries—Somerset-house	8	P.M.
	Royal Society of Literature—4, St. Martin's-place	4	P.M.
FRIDAY	Astronomical—Somerset-house	8	P.M.
	Royal Institution—Albermarle-street	8½	P.M.
	Philological—London Library, 12, St. James's square	8	P.M.
SATURDAY	Royal Botanic—Inner Circle, Regent's Park	3½	P.M.
	Westminster Medical—17, Saville-row	8	P.M.

GEOLOGICAL SOCIETY.

MARCH 28—Sir CHARLES LYELL in the chair.

The following paper was read:—"On the Relations of the existing Hot Water and Vapour Sources of Tuscany to the Igneous and Metamorphic Rocks from which they Issue, and to the Volcanic Eruptions Past and Present of the Peninsula of Italy," by Sir Roderick I. Murchison, V.P.G.S. In calling attention to the remarkable hot vapour sources of the Tuscan Maremma, which have been described by writers, from Targioni Tozetti, in the last century, to many of the present day, including our countrymen, Mr. Babbage and Mr. W. Hamilton, the author first showed that they issued upon lines of fissure precisely coincident with the bands of erupted serpentine and associated igneous rocks, and specially at those points where such rocks had fractured and metamorphosed the albereso and macigno, or cretaceous, and older eocene formations, on lines trending from north, and by west to south, and by east. The district so affected is an upland trough, subtended on the east and west by ridges of jurassic limestone, and on the north and south by tertiary formations, of miocene and pliocene age. One of these lines of the vapour sources (Monte Cerboli, or Lardarello) is selected to show that at its north north-west extremity, where serpentine and "gabbro" penetrate the albereso, the thermal springs of St. Michele occur; that, further to the south, the same conjunction of rocks is again accompanied at Monte Cerboli by thermal springs, which, in addition to several salts and gases (according to the Florentine chemist, Targioni Tozzetti), contain boracic acid; and in following the same line still further to the south and by east, hot water springs being again met with at Bagni a Morbo, hot vapours issue from a rent in the rocks at Castel Nuovo, similar to that of Monte Cerboli. Sir Roderick then shows that the other boracic acid vapours of this tract (which is about eight or nine miles long by five miles broad) occur in parallel fissures in rocks like those of the above type. He then asserts that the "gabbro rosso" of the Tuscans, which has been injected into these fissures, is an amorphous imbedded rock of true eruptive character, connected with the serpentine, and not a metarmorphosed rock, as supposed by some writers; and sections were given to indicate how it has broken up, and variously altered the sedimentary strata in contact, occasionally imparting to them its own red character. A brief allusion was then made to the effects of the earthquake of 1847, and how its disastrous effects coincided with the north north-west and south south-east direction of the lines of issue of the boracic vapours, and how the principal destruction of property and life occurred on the hillocks or in the longitudinal valleys of incoherent tertiary marl; further reference being made to the works of Savi and Pilla. The direction of the vapour fissures of Tuscany is coincident in the north and by west with the lofty ridge of the Western Apennines (Apuan Alps), and its minor parallels, in the Bay of La Spezia, consisting of highly metamorphosed strata (Carrara marble), and terminates northwards in the great serpentine region of Parma and the Genovesato.

Looking to this last mentioned tract as the chief centre of eruption, the author points out how those bands of eruption proceeding therefrom (each band containing minor parallels within itself), which have given to Italy and her western islands their dominant features, are not parallel, but divergent, as respects large masses of land; though, whatever be the direction of the ridges, the same intrusive rocks have cut up and *altered the same sedimentary strata*, thereby clearly fixing the age and the simultaniety of the operation. Thus, the serpentines which traverse the cretaceous and nummulitic rocks of Corsica trend almost N. and S.—a line, it is to be observed, on which there are undeniable proofs of former bands, as indicated by the Silurian fossils and coal plants of Sardinia, which range along an ancient granitic shore. On the east, on the contrary, the main chain of the Apennines, whose back bone has been determined by the serpentinous eruptions between Florence and Bologna, diverges still more from the parallelism of the Apuan band, and trends to the S.E.; and it is in this line that the chief elevations have occurred, the Gran Sasso d'Italia (9500 feet above the sea) being composed of cretaceous or nummulitic rocks. Yet, with all their grandeur of outline and crystalline aspect, the Apennines contain only secondary and older tertiary rocks, and offer no proof that any portion of them (excepting perhaps Calabria) was dry land, until that period of intense eruptive activity, which, in evolving the serpentines, and other igneous rocks, raised up similar masses, and gave to the peninsula its crystalline and rugged centre. After a long period of quiescence, during which the miocene strata were deposited, and in a great part formed out of the *débris* of the rocky skeleton above described, another great movement occurred, which dislocated these middle tertiaries, with their conglomerates and coal-fields, and this movement seems, on the whole, to have been aliniated with that of the preceding epoch. The granites of Elba and Piombino, which traverse the serpentine, were, partially, accompaniments of this disturbance. At a later period the subaqueous volcanic rocks of the Campagna di Roma and Naples were elaborated in the same general direction as the Apennines, which they flank. The author here reminded his auditors that the Alps, which had also undergone their greatest mutations and elevations after the nummulitic and miocine periods, had a chief axis from north-east to south-west, or nearly at right angles to that of the Appennines, and that the former differed from the latter in possessing the same dorsal spine of ancient and palæozoic rocks which characterises the Sardinian or meridian direction, and also in having never had any true volcanic rocks. It follows, therefore, that chains trending from north to south, and from north-east to south-west, have preserved their directions from the earliest periods, and have been affected by eruptions and lines of dislocations, more or less parallel to their original axis, at subsequent periods; whilst the Appenines, exhibiting no signs of high antiquity, have been mainly metamorphosed and raised up at the same periods, though their axes radiate towards the south-east. The chief skeleton of Italy having been formed by the serpentine eruptions and their accompaniments, we have evidence in the ejections of Vesuvius, on the south south-east, and in the hot fumes of Tuscany on the north north-west, that the igneous agency, which re-occurred in great force at former epochs and produced the Apennine mountains, is still active on a small scale along this one and the same band of eruption.

INSTITUTION OF CIVIL ENGINEERS.

APRIL 2.—WILLIAM CUBITT, Esq. (President), in the Chair.

In the renewed discussion upon Mr. Thorneycroft's paper, "On the Manufacture of Malleable Iron, and the Strength of Railway Axles," it appeared to be admitted, that the shoulder on axles was only useful as a guage, and that it should be curved from, and not square to, the main body; that between the journals the axle should be parallel, for if reduced in the centre, it was sure to bend, and eventually to break. Since the last meeting, Mr. Thorneycroft had made many other experiments, which proved his former opinion, relative to the progressive changes in iron from compression, which alone caused the destruction of the fibre, and, in fact, that jarring would not do it. Experiments were suggested to ascertain whether a pressure on the periphery of a wheel, fixed on an axle and kept rotating, would produce the same results which were admitted to exist in practice.

The paper read was a "Description of a Lift Bridge, erected over the Grand Surrey Canal, on the line of the Thames Junction Branch of the London, Brighton, and South Coast Railway," by Mr. R. J. Hood, M. Inst. C. E.

The Act for the construction of this branch, which was a single line, one mile in length, provided that the crossing of the Grand Surrey Canal should be by a swing bridge; but as there were many obstacles in the way of this clause being carried out, and as it was not thought to be the most convenient form of construction, it was determined, after due consideration of the advantages and disadvantages of each particular kind of moveable bridge, to erect one on a principle which might be designated a "Lift Bridge." This consisted, simply, of a rectangular platform, 23½ feet in width, and 35 feet in length, carrying on one side a line of rails, and on the other side a roadway for carts; it was formed of four beams of oak timber, undertrussed with wrought-iron rods and cast-iron saddles, those for carrying the rails (which were bridge-shaped) being stronger than the others, and having a flooring of 3-inch planking; the platform rested, when down, upon piles driven into a bed of hard gravel, met with at a depth of about 20 feet below the water line. The platform, which was about 12¾ tons in weight, was suspended at the four corners, by galvanised wire ropes, 4 inches in circumference, attached to the end of each oak transome, by means of strong bow springs, and passing over pulleys, fixed on four pairs of cast-iron standards, also supported on piles, and fastened at the other end to drums 3 feet in diameter, each pair of which were keyed on to the same hori-

zontal shaft, situated a few inches under the rail and road level. Upon the same shafts there were also fixed six other drums, of a like diameter with the former, carrying, upon coils of wire rope 2¾ inches in circumference, balance weights, of a total weight of 12½ tons, but not equally distributed, intended to assist in raising the platform, and which descended in cast-iron cylinders, or wells. Motion was given to one end of each shaft, by means of simple hand gearing, consisting of a train of wheels and pinions, by which the power was multiplied 26 times.

The level of the rails, above the water line, was 4½ feet, and as the platform was capable of being raised 9½ feet, sufficient room was afforded for the passage of the barges, the greatest number of which ever passing through in the 24 hours being 15, and since the erection of the bridge, not one in a hundred had been detained one minute; though on this point, as well as on many others, the canal company had raised factious objections, owing to which, and to the design having to be submitted for approval to the Railway Board, great delay arose in the commencement, and also in the execution of the works, augmenting the actual cost to 1800*l.*, which was beyond what, it was presumed, a similar work could, under more favourable circumstances, and when the construction was not novel, be executed for.

The bridge was stated to have proved very successful, and in situations where only a given headway was required for a limited span, this kind of construction was recommended.

At the monthly ballot the following candidates were duly elected:—Messrs. G. B. Bruce, and G. Remington, as members; and Messrs. C. C. C. Baynes, C. Cowper, G. Donaldson, W. Johnson, G. J. Munday, and W. Taylor, as associates. The meeting was then adjourned to Tuesday, April 9, when the following paper was announced to be read, "On the Construction of Locks and Keys," by Mr. J. Chubb, Assoc. Inst. C. E.

THE ELECTRIC TELEGRAPH.

Since the publication of our recent articles upon the subject of the electric telegraph, one or two very important circumstances have transpired, which we think it right to lay before our readers. It will, perhaps, be remembered, that on the occasion of the recent trial for infringement in the Court of Common Pleas, six separate points were referred to the consideration of the jury, and these points we may as well recapitulate, before going further. They were as follows:—1. Was the system of making signals on dials at distant stations new to plaintiffs?—2. Was the handle of defendants a different instrument from plaintiffs' cross bar?—3. Was defendants' magnetic ring and indicator a different instrument from plaintiffs' needle, claimed in specification?—4. Was defendants' one wire system of counting an infringement of plaintiffs' system?—5. Was the angular motion of needles in vertical planes, on horizontal axes, conjointly with the use of stops, new to plaintiffs?—6. Was the sending of signals to intermediate stations new to plaintiffs? These were the points to be decided, and the jury, after long and careful consideration, gave a verdict upon the four first in favour of defendants, and upon the two last in favour of plaintiffs. But a question was reserved in addition, for the after consideration of the Court—a question of the most vital importance, and one which, in our opinion, closely threatens the plaintiffs with a complete and final overthrow. The TITLE of plaintiffs' *patent*, an infringement of which it was here sought to prove, was for the transmission of telegraphic intelligence THROUGH METALLIC CIRCUITS. The title of every patent must be, in point of law, a true and perfect key to the entire specification. It must neither express too much *nor too little*. It must, in a few words, embody and comprehend *the whole invention*, whatever that may be—*ergo*, if in the case before us, Messrs. BRETT and LITTLE *do not* transmit telegraphic intelligence *through metallic circuits*, never have done so, and never have been directly charged with doing so, how stands the case then? Is the transmission of telegraphic intelligence, through *other* than metallic circuits, to be considered as an *infringement of this patent?* We think there cannot be two opinions upon the subject, and, therefore, we have had no hesitation in giving utterance to a conviction, which, however unpalatable to certain parties, must, we believe, be general. Messrs. BRETT and LITTLE have never dreamt of erecting a single telegraph which was to operate through metallic circuits. They would never be so silly, seeing that in these days they can save one-half the expense pertaining to such circuits by using the earth for the "return current," and no one will say that the *earth* is *metallic*, or that *half a metallic circuit* is a whole one. Yet in the face of these facts, it has transpired that within the last few days the London and North-Western Railway Company have received an official communication from the Electric Telegraph Company, anticipating, in the strongest possible terms which language can supply, an ultimate verdict in their own favour, and declaring that the object of the communication in question is to require the London and North-Western Railway Company *immediately* to desist from using the telegraph erected on their railway by Messrs. BRETT and LITTLE, and apprising them that, in the event of their non-compliance with this requisition, the Telegraph Company will claim to be entitled to compensation, and will file a bill in Chancery against them, and immediately commence an action for the recovery of damages, *for the invasion of their patent!* The letter, however, contains, it appears, an intimation that the Telegraph Company will be happy to receive any deputation which may be appointed by the board of the North-Western, with a view to an amicable arrangement of the matter, and to the adoption of such a course as may, under existing circumstances, be the least annoying and the most comfortable to all parties.

Judging from circumstances, however, this letter appears to have produced but little effect. Messrs. BRETT and LITTLE have just received orders to lay down their telegraph *forthwith* on a new portion of the London and North-Western Railway, between Clapham and Boulton-le-Sands, a distance of 14 miles; and, in compliance with these orders, the trench will be immediately opened for receiving the insulated wire, the old system of posts being now dispensed with.

In connection with the subject of Messrs. BRETT and LITTLE's telegraph, a letter appeared in our impression of the 23d March, with the signature of "G. E. D." The writer disputes our position, that Messrs. BRETT and LITTLE were the first to operate upon two indicators by a single wire, and refers the merit of the discovery to Dr. STEINHEIL, of Munich. Dr. STEINHEIL certainly moved *two short bar magnets* by a current passed through a single wire, but he did not move *two indicators*. We conceive an indicator to be that which *directly*, and without the instrumentality of extraneous intervention, shows or indicates to the mind a certain something, whatever it may be. Dr. STEINHEIL's bar magnets did nothing of the kind; they were out of sight. A moveable type indicates nothing to a reader, for he never sees it; but the *impression* which that type produces upon paper *is a component indicator* of some word—some sentence—some *thought*. Dr. STEINHEIL's bar magnets printed certain marks upon paper, and these *marks* being *afterwards* examined, were the *indicators* of the intended communication, not the magnets themselves; therefore, with all deference to our correspondent, Messrs. BRETT and LITTLE *were* the first who operated upon two indicators with a single wire. Their's is a colloquial—Dr. STEINHEIL's a printing telegraph. The argument of our correspondent, with reference to the comparative merits of COOKE and WHEATSTONE and BRETT and LITTLE's telegraphs, is good as far as it goes, but it does not go far enough. The real question is not whether, with the use of two wires, we can make *more* signals in a given time than with one, but whether we can make *twice as many*. If we cannot make twice as many, there is an obvious advantage in using one wire; and the more the number of signals falls short of this quantity, the greater the advantage becomes. Our correspondent knows too much of electro-telegraphy to dispute the superior merit of BRETT and LITTLE's instrument upon fair ground like this.

We have given a brief notice in some of our recent Numbers of the progress made in Parliament by the British Telegraph Company, and also of the ill success which has attended the counter efforts of the original company; but another and a formidable competitor has now appeared in the field. The European and American Printing Telegraph Company have just issued their prospectus. Their system embodies the printing telegraphs of Mr. JACOB BRETT, of London, and of Prof. HOUSE, of America. Of Mr. BRETT's invention we have already spoken at some length in a former Number; but the following particulars, in addition to those already given, will, doubtless, be read with some degree of interest. The instrument patented by Mr. JACOB BRETT is the only real printing telegraph which has ever been practically used in this country. It has been employed most successfully in the transmission of messages from Norwich to London, from Birmingham to Derby, and upon the continent, from Paris to Lille direct—the last being a distance of 190 miles. The patent was granted in 1845; and the printing is effected through the medium of a single wire, stretched from station to station. GAMBLE and NOTT's patent for a needle telegraph, though likewise involving the application of a single wire only, did not come before the world until the following year; and the printing telegraphs of BAIN, WHEATSTONE, and others, were merely attempts which have never succeeded in practice. Prof. HOUSE's telegraph is extensively employed on the North American continent; and it differs from all other trans-Atlantic telegraphs by printing the messages in bold Roman letters, and with great precision, so that, in the event of haste, the dispatches, as they come from the instrument, may be immediately placed in the hands of the compositor, whereby all that time is saved which is now occupied in the translation of communications where mere characters are given. This instrument presents the appearance of a miniature piano, with keys, denoting the different letters of the alphabet. Instead of a circuit key-board, a detent key-board is used, by which, with a single wire, while one dispatch is being received in New York, another is being delivered at Philadelphia. The electricity is not used *as a motive-power* for recording or signalising, but merely *as a regulator* of the required movements—the printing being all effected by ordinary mechanical agency. A trial of speed was made with this instrument some short time since, when it was found capable of printing 170 letters per minute—every one of which was plain and legible. On one occasion, 200 letters were printed in the same time—one minute! But we are bound, however, in fairness, to state that the operator on this occasion was Mr. HORNER—a man not only *well practiced*, but perhaps the very quickest manipulator in the United States. This telegraph has been adopted in no less than eight kingdoms of Europe, and is considered by many to be the most perfect instrument which has yet been invented.

Our friends on the other side of the Atlantic not only hail it as a proud monument of American genius, but as the prime and successful subverter in the western world of a protracted, obstructive, and obnoxious monopoly in the communion of thought and intelligence. Their strictures upon the recent attempts of two or three geniuses to obtain a ratification and extension of certain privileges granted to them for the exclusive transmission of telegraphic communications in the United States are most severe, and, to our thinking, from a careful examination of the merits of the case, perfecly just.

The European and American Printing Telegraph Company declare it to be their *bonâ fide* determination to carry out their new system of telegraphs upon the same broad and economical plan which is now growing into such general and successful adoption over the continent of North America. The leading features of their plan are "cheapness, expedition, accuracy, impartiality, secrecy, and integrity." With regard to the combined advantages of "cheapness" and "accuracy," we trust they will take a hint from us, and never commit the transmission of important intelligence to mere boys at nominal salaries. It frequently happens that an error committed in a single word completely alters, or, perhaps, altogether reverses, the entire sense and meaning of a whole communication.

But why is *impartiality* thrust prominently forward as a seeming desideratum in the transmission of instantaneous communication. We *hope* that no murmurs of complaint, bearing reference to partiality, have ever been uttered against the existing management; and we trust that, in deference to public opinion, as well as for the satisfaction of PUBLIC RIGHT, the company into whose hands the British Legislature has hitherto confided the telegraphic communication of the United Kingdom will be able to vindicate themselves from so unseemly an imputation (for an imputation it certainly is), by a reference to their principal customers—to those who have been in the constant habit of laying out large sums of money for the transmission of public despatches along their lines of wire.

WHEAL ROUGH TOR.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In my late round through Cornwall I called at the above mine, and was agreeably surprised to see the general appearance of the heap drawn from the mine, particularly at the western part; I never saw any mine look more promising, from every surface indication. Capt. Brenton (though a stranger) very kindly described their prospects in the bottom levels, and showed me some excellent specimens of copper found there. I have no hesitation in saying, that it is my belief that this is a copper district; and the day is fast approaching when Wheal Rough Tor lode, or some other in this locality, will be found to make large returns of copper. I beg to remark, that I am unknown to any individual concerned in these mines, and make these observations unsolicited by any one, and open to any remark from those who differ from me in opinion as to its promising appearance.

Wheal Tregorden, near Wadebridge, is also making a very promising appearance, with north and south lodes running near at right angles with the stratum, and appears to be very well managed by a Capt. Bryant. I was prevented from calling at Wheal Penhale, west of Wadebridge; but from what I could gather from a few able miners, this mine presents a very cheering aspect.

Wheal Sarah, near St. Teath, is producing some rich lead for silver; the gossan is said to be rich.

The general appearances of mines in this district are favourable; there can be no question as to the stratum being strongly mineralised with lead, silver, antimony, and iron; but I venture to predict, that copper will not be found in this district sufficient to pay the expense of working a mine. N. ENNOR.

Treborough House, March 30.

ASTURIAN MINING COMPANY.

SIR,—In your report of the meeting of this company, held on the 26th March, I observe the conduct of Mr. Moore was strongly impugned by Messrs. Gillan and Webb. If these gentlemen are, as I suspect them to be, Mr. Wm. Campbell Gillan and Mr. Charles Locock Webb, I think any reproach from such a source is undeserved, and comes with very ill grace. I need not call to Mr. Gillan's recollection, when the company was first projected, the peculiar circumstances under which it was ushered into public notice, and the settlement entered into with the first proprietors—Baron Morat, Mr. John Langford, &c. Mr. Webb, from the nature of his connection with the company, must be as well aware as the former gentleman of the general mismanagement of this fine property, of its connection with the defunct Royal North of Spain Railway, and the various other causes, which would be too numerous to recapitulate, but which ultimately led to the issuing of the decree of June last. Whatever errors of judgment Mr. Moore may possibly have committed, there can be but one opinion since he has been appointed liquidator, that he has been untiring in his exertions, and indefatigable in his endeavour, to save the property from passing out of the hands of the British shareholders. I have watched with attention the company in all the various phases it has undergone in its chequered and brief career, and I had some hopes that justice would at last be done to this magnificent property. If, however, a few discontented parties, animated by a personal feeling, are allowed to triumph, it requires no prophet to foresee the date of the demise of the Asturian Company, and the impossibility of its being resuscitated under another name, for the benefit of those who have already embarked so much capital in it. I do not pretend to know what may be the plans of the liquidators, but this much I am aware of—had it not been for their exertions, the Spanish shareholders would have caused the suspension of the works, and probably been for some time in possession of the whole of the establishments at Mieres. THE IDLER IN THE ASTURIAS.

London, April 2.

ASTURIAN MINING COMPANY.

SIR,—In your last Number, the letter of "One who has Seen the Mines," gives to the shareholders a very decided opinion as to the present value of their property. As an individual having some, although an inconsiderable, stake in the company, I applied for information to a friend, who, from motives of deep interest, has taken the precaution to inform himself accurately respecting the present position of affairs. It may not be uninteresting to my fellow-sufferers to apprise them that the issue of those inquiries has been to confirm the statements of those who assert that, under proper management, the property is capable of making a fair return upon a capital assumed to be economically applied—not upon that which has been nominally expended, and which I have no doubt has been partly squandered upon irrelevant objects, and wasteful preparations. A report has been obtained from a scientific resident of the Asturias, totally disconnected from any interest in the company, as I am informed; and the conclusion of it is, that although formidable competition exists, which could never have arisen had the works been promptly and economically constructed, and a trade pushed with energy, and on correct principles; yet there is still enough opening to secure a considerable profit upon a working capital, sufficient to develope the existing capabilities of the establishment. I subjoin an extract from the report, which I am told emanates from a sound practical judgment. It will serve to illustrate the system which influenced the parties who were the self-constituted and irrevocable agents for the distribution of our funds, and the management of the company. A SHAREHOLDER.

London, March 28. [EXTRACT.]

"At the beginning there was an unpardonable error in the mode of establishing the concern—viz., that the design was for a sumptuous construction (*fabrique luxueux*), not only for this country, but even for France or England. The architect placed in abeyance the paramount commercial principle to give prominence to handsome edifices. But the foundation, the base, in fact, the nerve of the operation (the furnaces) appear only as an accessory, where they ought to be the object of prime importance; and, certainly, there is not the least correspondence between them and the rest of the buildings. Everything has been done at the most exorbitant prices, and without the slightest regard to economy—the consequence of the self-sufficiency of those who were at the head of affairs, and their ignorance of the cost of carriage and materials. They worked entirely from their own design, employing persons who knew nothing of the country, not even the language—and this for the important purpose of making purchases in which, I have been led to believe, they sought only their individual interest, and not that of the company. As to a direction, there could have been no such thing in the ordinary acceptation of the term. The offices are arranged as if there had been already an extensive development, and a grand routine of business, which, except in the fancy of the parties, had no existence; they employed exclusively Englishmen, at enormous wages, wounding thereby the national character of the Spaniards, so proverbially susceptible and proud; and, amongst all these *employés*, they provided no competent work-master nor commercial agent. In fine, there was a perverse departure from the proper design of forming a manufactory for the production of cast and wrought-iron, in pursuance of the successful system of the English—driving a large trade with small profits. Relative to the general affairs—that which has caused the most deadly prejudice to the company (*ce qui l'a tuée*), has been the collateral projects—on which so much money has been foolishly lavished. Certainly these must have been the result of the grossest ignorance; instead of making trials, they set to work as if everything was ascertained for permanent and profitable working. There was an unaccountable perverseness, which destroyed all public confidence, in making every one believe that not only the directors in London, but also the managers here, were actually mad, for they received many disinterested warnings that those objects were futile. In a word, they have swallowed up an immense capital, on which a return can never be anticipated, if affairs remain on their ancient footing. Besides that, they have let slip the opportune moment for commencing, because, at the present time, Sargadelo, Bilbao, and Sarrero, are so far established as to occasion a competion, which did not exist in 1844."

The report then proceeds to recommend (in language analogous to the proposal now submitted for our adoption) a total change of system—the adoption of a sound principle, and the employment of practical men and measures; and it is but justice to the present manager to state here, that the report (cautiously promising that his qualifications as a superintendent are unknown to the author) admits that he has succeeded in ingratiating himself with all parties, and securing favourable opinions.

CWM ERFIN MINE.

SIR,—I find that Mr. T. P. Thomas has refused to comply with the request to explain where the difference of accounts, amounting to 327*l.* in two months, have been applied, on the ground that he declines entering into a paper controversy with an agent unanimously dismissed at a previous meeting. Now, I will explain to you, as well and as clearly as I can, how I obtained my dismissal. At the first meeting of the shareholders, held in Nov., 1849, I found that the shareholders present were not satisfied with that meeting, and called a second one, at which I attended. The balance appeared against the mine before the accounts were audited, I think, from 80*l.* to 100*l.* more at the first than it did after the accounts were audited at the second meeting. As some materials supplied to Esgair Llee, Bodcall, and Nantycria, had been charged in the Cwm Erfin cost (and I should here observe there are now parts of a crushing-mill at Esgair Llee had from this mine, and which should either be returned or paid for at the second meeting), I remained in town to assist Messrs. Crofts and Stride, as far as laid in my power, to bring the accounts as near the mark as possible; but they were only enabled to do this roughly, and, consequently, there were one or two more adjourned meetings; at the last of which, and when the *person* in the chair never held one share (unless placed in his hands on that day, or a day or two previous), there was a resolution passed—"That, whereas Capt. A. Francis had pledged his character as a miner, that the mine would show a profit, and the contrary being the case, his services be no longer required." Were I now at Goginan, I could forward you a copy, but which I have not at present with me; however, the above contains, as nearly as possible, what it really was. Neither was I unanimously dismissed even at that meeting; at least, I was informed so by a shareholder present at the time. After this I wrote to the committee of management, asking what they intended allowing me on leaving the mine. Their answer, through Mr. T. P. Thomas, was three months, at 3*l.* 3*s.* per month, and 3*l.* 3*s.* for expenses, amounting to 12*l.* 12*s.* I then held only 10-1000th shares, and the call then made on them of 10*s.* per share would amount to 5*l.*; and since the mine has been handed over to Messrs. Taylor and Son, another call of 10*s.* per share, amounting to 5*l.*—together, 10*l.*, out of 12*l.* 12*s.*, so that the mine still stands in my debt 2*l.* 12*s.*, after paying every penny due to this date. And to put the matter right respecting my interest in the mine, if Mr. T. P. Thomas will inquire of George Smith, Esq., 4, John-street, Oxford-street, he will inform him of my becoming the purchaser of 100 shares in this mine, and on which all calls are paid; but, to come to the point, I will now leave you and the public to judge between right and wrong. I am (say) a small shareholder, residing in the county of Cardigan; and, knowing what the cost of the mine really is according to the cost-book kept at the mine, I find there is a difference of 327*l.* in two months between the cost of the mine, and the London cost. I write to the party employed in London as purser to ask how this sum was applied. The answer is, the books are open, and if I wish to see them, I must dip my hands into my pockets for 12*l.* or 15*l.* to do so. It is not likely, indeed it is impossible, that there are many small accounts paid in London, and, consequently, they are the more easily explained, if explained they can be. Mr. T. P. Thomas resigned his situation as purser in two months after my leaving the management, and I am sure it was a wise step; for he must have seen, for some time previous, his services were not wished by some very influential shareholders. But it *appears he is rather too great a man to condescend to answer a poor unfortunate turned-away captain.* This "beats Banager!" I believe the resignation of Mr. T. P. Thomas was accepted by the shareholders without much reluctance on their part. I have only one object in view, and that is to give every shareholder, whether in London or in the country, every information they require; and I am sure that this must be the wish of every person whose desire is to further a right system of mining, and I am truly glad of having a remedy for exposing anything detrimental to mining in general through your valuable columns.

Maravion, Cornwall, April 3. ABSALOM FRANCIS.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

TAVISTOCK.—I am happy to inform you that mining in this neighbourhood is looking cheering. The lode at North Friendship, lately cut, was never seen in the last working of the Old Wheal Betsy Mine, and the return from this lode will, no doubt, stimulate the adventurers to see the bottom of the old mine. About two years previous to the stopping of the old mine, their large pump work was altered, and when the large wheel for pumping broke down, the misfortune was so sudden, that the men had no time to remove any of the new pump work put down. Report says there is a sufficiency of pitwork now in the old mine to pay for the erection of a new water-wheel. They are preparing a good pile of lead for the market, and intend to erect a water-wheel and crusher immediately.—Wheal Russell is looking well; sampled upwards of 30 tons of copper ore and nearly 2 tons of tin. This is likely to make a good and paying mine. I do not know the reason why the agent does not report occasionally, giving the distant shareholders the opportunity of knowing the prospects of the mine, especially as all ores are sold privately, and not at the public ticketings.—The improvements in Heigngton Down Consols are extraordinary. This, no doubt, will make the best mine in the eastern part of Cornwall. The lode going east, on the Old Gunnis Lake lode, is now in granite; they have a lode producing from 4 to 5 tons of rich carbonate of copper, worth 20*l.* per ton. Of the assays tried by Mr. James Harvey, one produced 37, and the other upwards of 36, per cent. of clean copper. We have at surface about 20 tons of copper, and also 5 tons of tin in the market. This mine, you may well say, will maintain her importance in the mining world, without the assistance of the puffing too often resorted to. We wish the spirited adventurers a good mine, working as they have done against evil reports and dull times.—East Wheal George is likely to turn out a trump, and which we hope it will; the prospects are good, and she is looked forward to by the labouring population of the neighbourhood as a great boon to them—we wish them success.

EAST TYWARNHAYLE.—Amongst the numerous mines which are being set to work in West Cornwall, I am glad to announce that this is one, and that the prospects are very good, There is a copper lode, 6 feet wide, containing some copper ore in a matrix of the most congenial character. This mine adjoins at the west the Tywarnhayle Mines, which are going on well.

HEIGNSTON DOWN CONSOLS.—The shareholders in this mine have reason to congratulate themselves on the discovery made in the 35 fm. level, where they have a leader of copper 18 in. wide, the full height of the end solid; and, I am told by Mr. Harvey, the assayer, that it produces 37 per cent, which will make the lode worth from 75*l.* to 80*l.* per fm.

NORTH WHEAL FRIENDSHIP.—On the copper lode on which we are sinking we have a leader of mundic, 6 in. wide, in a beautiful killas, which indication, coupled with the gossan taken from the back of the lode, leaves little doubt of their being successful there. The lead lode is turning out well; they estimate having nearly 40 tons now on the surface. It is not expected a further call will be required.

NORTH WHEAL VOR.—Since I wrote you last this mine is improved, tin being found in both the shallow and deep adits, on which pitches are about to be set. It is a very remarkable circumstance, that Wheal Vor Consols adventurers should have overlooked this good spot. I am not so fortunate as to have an interest in it, but I am glad for those who have.

SOUTH MARIA.—A new company is forming to re-work this more than promising mine. I believe the works were stopped through the insolvency of some adventurers, who could not pay calls, and would not then resign. The new company will see the lodes 20 fms. deeper at a cost of 1*l.* per share, according to present appearances, at which depth I, with many others, doubt not finding a good deposit of ore. The old company drove not quite 20 fms. from the adit level, which is too shallow to report a mine, though in the cross-cuts large stones of ore were found. I have always thought South Maria a rich sett, and believe that the new company, in the next level, will find my belief realised.

SOUTH WHEAL JOSIAH.—The adjourned meeting of adventurers took place on Wednesday, when a call of 10*s.* per share was deemed advisable. Their prospects are said to be very encouraging, but in consequence of the unusual rough weather, the agent was unable to attend with his report; it will, no doubt, appear next week.

WHEAL RUSSELL continues to hold forth the same glowing prospects hitherto stated by the most experienced miners. As a shareholder, I think I may venture to remark that it is the duty of the agent to give the distant shareholders some information through your Journal, weekly or monthly, at least, of this valuable property.

Mining Correspondence.

BRITISH MINES.

ABERGWESSIN MINES.—The lode in the 10 fm. level west is 9 ft. wide, composed of spar, prian, and stones of lead, and every foot we drive it seems to improve. The lode in the 10 fm. level east is 15 feet wide, with a rich branch of lead nearly a foot big. We have fine stones of lead in the winze sinking from the 10 fm. level. The lode in the 20 fm. level west is 14 ft. wide, composed of rich work; this level is suspended for want of men. The workings in the 30 fm. level are at a stand, in consequence of the water not being in fork.

ALFRED CONSOLS.—The lode in the 70 fm. level, east of Field's engine-shaft, is 8 ft. wide, and on the north part the orey course is about 3 ft. wide, worth about 24*l.* per fm.; there is no change in this level, west of said shaft, since the last report. The lode in the winze sinking under the 60 fm. level, east of engine-shaft, is about 4 ft. wide, nearly all copper ore of good quality, worth from from 40*l.* to 50*l.* per fm.; the men in the 60 fm. level, east of said shaft, are still breaking about 4 ft. of the north part of the lode, which part is looking very well, quite as well as last reported, worth 70*l.* per fm. The lode in the 60 fm. level, west of Field's engine-shaft, has a better appearance, not so much hard capels, but soft spar. There is no change in any other parts of these mines.

BARRISTOWN.—We have not yet discovered the lode in the 30 end, to the west of the slide, although the ground we are now in is free from the slide. In the 30 end east, on this lode, the ground is very hard, and the lode is rather smaller than when last reported, producing about 8 cwts. of lead per fm.; in the rise in the back of this level the lode is small, with a solid branch of lead, about 3 in. wide; we are stoping the bottom of this level, on the east and west lode, which looks well; there is no change here on the new lode. We are driving the 40 cross-cut south of Slob shaft, with all possible dispatch, to intersect the east and west lode; we have about 9 fms. to drive before we get through the black channel of ground, we can then drive a level to cut the lode at this depth.

BEDFORD UNITED.—We are driving north in the 115 fm. level to cut the lode, the ground is more favourable than it has been; the lode in Evans's rise, in this level, is 2 ft. wide, and worth 15*l.* per fm. We are driving by the side of the lode in the 90 fm. level east; in Bray's winze, in this level, the lode is still worth 25*l.* per fm. The lode in the 70 fm. level east is 3 ft. wide, composed of spar, mundic, and ore, producing saving work, altogether a very strong and kindly lode. We weighed at Morwelham, on Friday last, January ores, 116 tons 16 cwts. 2 qrs., and sampled February ores, computed 121 tons.

CARTHEW CONSOLS.—At the upper mine the ground continues easy in the engine-shaft, lode large and very promising, and in sinking we are making good progress. Since my last report, and up to the present time, the 65 fathom level end north has been driving in very good ore ground (*i. e.*) lead and copper, opening fine opportunities for tribute, as soon as we get the steam-whim at work to haul the stuff. The 65 fathom level end south is also opening very promising, in which I find many branches coming together at the point of junction, which I think will shortly show very good results. In the 18 fathom level end, south from the middle shaft, we are extending a cross-cut to intersect a side lode, which, in clearing out for the foundation of engine (whim) house, it was discovered had been worked open from surface, but has not been worked on in conjunction with any of our levels below; this will very likely open an important feature in the mine. The tribute department looks very well, and is yielding very fine work in copper, far superior to any we have had heretofore. The buildings for steam-whim, &c., are being proceeded with with very good speed. The founders feel alive to their work, and are making also good progress. We intend to sample again on Monday, the 29th of April. At the lower mine, in the adit level, we have turned around to drive towards the upper mine on a large branch, apparently a part of the upper mine lode.

COMBLAWN.—We are progressing very favourably with our work, the bob being hove in on the pit; the condensing cistern is fixed on the oak carriers, and we have a temporary sheare erected for lifting in the cylinder, which I expect will be done by Tuesday. The foundation for the stack is nearly taken out, and, if the men are not hindered, the masons will commence on Wednesday.

DAREN.—We have got the wheel at Daren nearly completed, the leat half made, and the line of the railroad laid out. The ore ground continues good in the level Coed adit—the lode being orey, with lead and copper for 6 ft. wide, yielding about 30*l.* worth of ore to the fm. In the back of level Canal the ground yields about 25*l.* worth of ore to the fathom, and there is a good branch of silver-lead ore in the level Coed, and going westward.

DEVON AND COURTENAY CONSOLS.—I see no alteration in the ends or pitches since last report.

EAST CROWNDALE.—The middle shaft is now down about 6 fms. below the 28 fm. level; the last 3 fms. have been sunk through productive ground, worth, on an average, from 15*l.* to 20*l.* per fm.; the lode at present we estimate worth from 12*l.* to to 15*l.* per fm. In the 28 fm. level east the lode is tinny at present, and has laid open fair tribute ground for the last 6 fms. driving; our tribute pitches are much as usual. We sampled and shipped January and February ores, computed 13 tons.

EAST TAMAR CONSOLS.—The shaftmen have made very good progress during the past month. The ground continues to be favourable, and the leader of the lode is 12 in. wide, yielding good work. In the 80 fm. level south the lode in the end is 2 ft. wide and orey, but not rich; this level will be communicated to the winze sunk before it in the course of a few days. In the 70 fm. level south the lode is at present in disordered ground; in the north end, at this level, the lode is 18 in. wide, and worth 6 cwts. of lead per fm. In the 60 fm. level south the lode is about 1 ft. wide, 6 in. being good work; the ground is congenial, and the lode very kindly, and likely to improve; in the north end, at this level, the lode is 2 ft. wide, and worth 7 cwts. of lead per fm.; opening good tribute ground. In the 26 fm. level, north of Church-lane shaft, the lode is 2½ ft. wide, and worth 8 cwts. of ore per fm. The engine erecting at Gullett's shaft will be completed in about a fortnight; the plunger-lift is fixed to the bottom of the downright shaft, and we are making all the necessary arrangements for dropping the next lift on the underlay. The pitches are without any material alteration, and, on an average, are set at rather lower tribute than last month.

ESGAIR LLEE.—Our pay and setting was on Saturday last, March 30, and the following is an accounnt of the latter:—The deep adit, west of Morgan's winze, on the north lode, to carry all the lode, or 6 ft. wide, by six men, 3 fms. stent, or the month, at 4*l.* per fm. The deep adit, west of the junction, on the caunter lode, to carry all the lode or 6 ft. wide, by six men, 4 fms. stent, or the month, at 3*l.* per fm. The caunter lode, in the deep adit, to strip down for 4 ft. wide, and 7 ft. high, by six men, at 2*l.* per fm. The 12 fm. level, west of Morgan's winze, on the caunter lode, to carry all the lode, or 6 feet wide, by six men, 3 fms. stent, or the month, at 4*l.* per fm. The 12 fm. level, east from surface, on the caunter lode, to carry all the lode, or 6 feet wide, by six men, 4 fms. stent, or the month, at 5*l.* per fm. We have driven 3 fms. 4 ft. 2 in. south in the deep adit, but as yet have not seen anything more of the caunter lode east of the cross-course, and we have put these men for the present to strip down the caunter lode west of the cross-course; this part of the lode is about 4 ft. wide, and will yield 10 cwts. of ore per fathom The north lode in the deep adit, west of Morgan's winze, is 4 feet wide, and will yield 10 cwts. of ore per fm. The caunter lode in the deep adit, west of the junction, is 7 or 8 ft. wide, and looking very promising, and will yield about 20 cwts. of ore per fm. We have driven 2 fms. 2 ft. 8 in. south in the 12 fm. level, west of Morgan's winze, but as yet have not cut the north lode, and we have resumed this level west on the caunter lode; the lode has a promising appearance, and producing good stones of ore, but not sufficient to set a value on. The caunter lode in the 12 fm. level, east from surface, is looking very promising indeed, and will yield from 20 to 25 cwts. of ore per fm., and, judging from its general appearance, I think there is every probability of this lode in the deep adit, west of the junction, proving very productive, and it will soon be necessary for us to sink a winze from the 12 fm. level on this lode to the deep adit, west of the junction, for the purpose of opening ground for tribute, &c.

HEIGNSTON DOWN CONSOLS.—The lode in the 35 fm. level, east of the cross-cut, is considerably improved since last reported on, and now worth full 80*l.* per fm. for copper ore. In the middle cross-cut we have cut the south part of the lode, on which Bailey's engine-shaft is sunk, and so far as cut into produces some very good saving work for tin ore. In the western cross-cut we hope to cut the lode, last alluded to, in the course of the present week. The winze below this level is sufficiently deep to drive for the 45 fm. level, and have put the men to drive south to intersect the lode now so valuable in the level above—viz.: the 35. I am also glad to say that Hitchins's shaft is enlarged, and made complete 7 fms. 3 ft. below the surface, and hope to make the same good in the 12 fm. level by the end of the present month.

HOLMBUSH.—The lode in the 120 fm. level south is 4 ft. wide, composed of quartz and lead, saving work; the pitch in the back of the level is a little improved; the ground in the 120 fm. level cross-cut south, towards the Flap-jack lode, is still favourable. We have intersected the western wall of the western part of the lead lode in the 110 fm. level, and find it to be 4½ ft. wide, composed of spar, flookan, and sprigs of mundic and lead. The Flap-jack lode in the 100 fm. level, east of the great cross-course, is 2 ft. wide, composed of spar, mundic, and stones of copper ore; the pitches in the back of the level are much the same as when last reported on. We sampled, on Friday last, a parcel of copper ore, computed 126 tons.

KINGSETT AND BEDFORD.—The wheel-pit is sunk, and the wall commenced; the lobby to the same is almost completed, and the leats are all brought home, and everything pushing on as fast as possible. The lode cut by the cross-cut, east of Carpenter's shaft, is producing good work for lead; we intend next week to rise on the course of it. The end driving south is producing some good stones of lead, and is improving very much.—*April* 2.—The new rise is looking a great deal better—all but a course of lead. I consider we are so far up as the bottom of the level driving south of the late rise. I do believe we shall, in a fathom or two more rising, get up to a good course of lead; the south end still produces some excellent stones of lead, although not as yet a course of lead, but are daily expecting it. We have stoped the cross-cut, east of Carpenter's shaft, and have put the same men to drive on the poor lode for this week out, when I hope to see the propriety of rising on the same. We have also taken two men out of the end driving south of the rise, and put them to rise about 7 fms. back from the present end; we have set it at 2*l.* 10*s.* per fm. We have also set the wheal-pit at 2*s.* per perch, and I think it will amount to 100 perches of wall; we have let the raising and carrying of the granite to Mr. Perkins for 6*s.* per ton—we may want about 10 tons. I have measured the wheel-pit, and found it nearly 26 fms., the sinking of which cost only 3*s.* per solid fm.; the lobby that we set at 8*s.* per fm. has measured 29 fms. I have just set the close driving to the wheel-pit (which is about 7 fms.) at 6*s.* per fm. We intend to circulate a few printed notices for tenders for erecting the machinery, by which I expect it will be done much cheaper. The men have cut into the poor lode, and have just come up with some very good stones of lead; they say the lode is looking splendid since the morning.

KIRKCUDBRIGHTSHIRE.—The lode in the 62 end, west of Stewart's, is 4½ ft. wide, the north part of it spotted with ore; the same end, east of Keith's, is still without lead; the same end west has a lode 3 ft. wide, with spots of ore in it. The 50 end west has not yet improved. We have shipped a cargo of lead this week.

LAMHEROOE.—At the engine-shaft, the cross-cut to drive north in the 60 fm. level, by six men, 3 fms. stent, or the month, at 9*l.* per fm.; ditto end, to drive east by six men, 3 fms. stent, or the month, at 8*l.* per fm.; ditto end, to drive west 3 fms., stent, or the month, by six men, at 8*l.* per fm.; ditto end, to drive north in the 50 fm. level, by six men, 3 fms., at 5*l.* per fm. At Davey's shaft, the cross-cut to drive south in the 30, by six men, 4 fms. stent, or the month, at 7*l.* per fm.; the cross-cut to drive north, in the same level, 1 fm., at 10*l.*; in this level we have just intersected a branch underlaying south, and a great quantity of water is issuing therefrom—would set but 1 fm. at the above-named price. Regarding the tin lode in the 60, we shall not take it down until we have driven some 4 or 5 fms. on its side; the lode increases in size as we extend eastward.

PENZANCE CONSOLS.—In my last report I mentioned that eight men were working in a pitch on the north lode, east from shaft; I feel much pleasure in informing you that this lode is very considerably improved, and specimens of the quality of the tin I have forwarded to you, which was broken on Monday last, from a stone weighing upwards of 56 lbs. The western stopes still continue in very good tin ground; the bottom, west from Carthew's shaft, is also in very good tin ground, lode about 3 ft. wide, producing rich tinstuff. Boyns's lode, west from Carthew's shaft, is still improving in appearance, and, in fact, in this mine, from present prospects, there is every encouragement to expect a lasting and profitable concern.

SOUTH TAMAR CONSOLS.—The shaftmen have made tolerable progress during the last month, considering the troublesome ground they have to contend with; the lode lets down a great deal of water, and drains the 100 fm. level; it is about 4 ft. wide, and worth 8 cwts. of ore per fm.; in the south end, in the 108 fm. level, the lode is 4 ft. wide, very easy for driving, and worth 10 cwts of ore per fm.; in the north end the lode is 3 ft. wide, and worth 6 cwts. of ore per fathom, and is daily improving. In the south end, in the 90 fm. level, the lode is 2½ ft. wide, composed of capel, with some can, and worth 5 cwts. of rich ore per fathom. In the south end, in the 80 fm. level, the lode is 2 ft. wide, composed of capel, and worth about 3 cwts. of rich ore per fm. In the 70 fm. level, in the south end, the lode is small and disordered. In the south end, in the 30 fm. level, the lode is 4 ft. wide, composed of capel, and orey throughout. The ore from the lode in this level makes a produce of 59 for silver. We are clearing the 45 fm. level to get under the ore ground. We continue to clear Glynn's shaft, and are down nearly to the 70 fm. level. The pitches are yielding a fair average quantity of ore; the quality, at the same time, being much superior to any we have hitherto had.

SOUTH WALES MINES.—Our pay and setting was on Saturday last, the 30th March, and the following is an account of the latter:—The 12 fm. level, east of the cross-cut, on the south, or Frongoch, lode, by six men, 6 fms. stent or the month, at 3*l.* per fm.; we have cut the lode in this level, and can see it for 9 ft. wide, but as yet we are not through the lode, though as far as we can see it is poor, and I regret to say its general appearance in this level is not so promising as might be expected from its general character in the old workings 12 fms. above, but the cross-cut is 12 fms. west of the old workings, and I think it quite advisable to extend this level east on the course of the lode, so as to get near or under the old workings, and for the present to suspend sinking below the shallow level, till the lode may be drained, for at present we have water to draw.

SOUTH WHEAL TRELAWNY.—The ground in the engine-shaft, sinking below the 50 fm. level, is favourable, and is of the same character as heretofore. The ground in the 50 fathom level cross-cut, west of the shaft, is also favourable, being a dark blue killas; we have intersected a small vein of flookan in the 50 cross-cut, east of the shaft, about 3 in. wide, but there is no water coming from it; we shall, therefore, extend the level further in that direction. With this you will receive the particulars of the setting, &c.

TRELEIGH CONSOLS.—In the 100, west of Garden's shaft, on Christoe's lode, the lode is 4 ft. wide, not much ore. In the 90, west of ditto, the lode is 20 inches wide, with good stones of ore, and is looking more kindly. In the 80, west of cross-cut, on the north part, the lode is 1 ft. wide, with stones of ore. In the 70, west of Garden's shaft, the lode is 4 feet wide, worth 7*l.* per fm. At Wheal Parent, the engine-shaft below the 40 is sunk 6 fms. 4 ft. below the 40 fm. level. The 40 fm. cross-cut, south of ditto, is driving towards the middle lode; in the 40, east of the engine-shaft, the lode is 18 inches wide, with stones of ore. In the winze, below the 20 fm. level, the lode is 15 in. wide, with stones of ore. In the adit, east of Nicholson's shaft, on middle lode, the lode is 2 ft. wide, with stones of ore, and is looking kindly.

WEST ESGAIR LLEE.—We have cleared out one part of the old workings, and are now sinking on the course of the lode; the lode is about 2 feet wide, composed principally of good gossan, quartz, and lead, and has a very promising appearance, and I think will yield 5 or 6 cwts. of ore per fm.

WEST WHEAL JEWEL.—The 85 fathom level, west of Williams's cross-course, on Wheal Jewel lode, has not been taken down in the past week. The 70 fathom level cross-course, west of ditto, on same lode, is worth 6*l.* per fathom. The 57 fm. level cross-course, west of ditto, on same lode, is unproductive. The shallow adit level, west of Tregoning's shaft, on Tolcarne tin lode, is worth 6*l.* per fathom. The deep adit level, west of ditto shaft, on same lode, is looking promising for tin. The 12 fathom level, west of ditto shaft, on same lode, has not been taken down in the past week. The stopes west of Pryor's winze, in the back of the 12 fm. level, on same lode, are worth 25*l.* per fm. The stopes east of Tregoning's shaft, in the bottom of the 12 fm. level, on the same lode, are worth 23*l.* per fm. The stopes west of ditto winze, in the bottom of the same level, on the same lode, are worth 24*l.* per fm.; these stopes are working on tribute.

WHEAL PENHALE.—Since my last report we have not done a great deal in sinking the engine-shaft, the men having been the whole of this week engaged in changing the pitwork, having removed two drawing lifts and replacing them by one plunger, consequently the men in the bottom level have been the principal part of their time engaged to capstan, yet enough has been done, both north and south in the 30 fm. level, to show each end in much better ground than when last noticed, and the lode may also be noticed as improved. In the winze sinking in the bottom of the 10 fm. level north we have a large and good lode; in the south end, in this level, the lode has this week been intersected by a cross-course, but is found larger and more productive on the south than on the north of it. The several tribute pitches look very well, and on Saturday next I shall have to notice an increased number. I intend to sample again on Monday, the 29th of April.

WHEAL TRELAWNY.—At Phillips's shaft, in the 82 end north, the lode is 3½ ft. wide, worth 11*l.* per fm.; in the south end, in this level, the lode is 2½ ft. wide, worth 4*l.* per fm. In the 72 north the lode is 2½ ft. wide, worth 11*l.* per fm.; in the south end, in this level, the lode is 3 ft. wide, worth 4*l.* per fm. In the 62 north the lode is 4 ft. wide, worth 16*l.* per fm. Trelawny's shaft is sunk 7 fms. 2 ft. below the 82, still in good ground. In the 82, north of ditto, the lode is 3 ft. wide, worth 10*l.* per fm.; in the 82 south the lode is 2½ ft. wide, worth 9*l.* per fm. In the 72 north the lode is 3 ft. wide, worth 10*l.* per fm.; in the 72 south the lode is 4 ft. wide, worth 9*l.* per fm. At the north mine, the 55, north of Trehane, is suspended, and the men put to rise in the back of the end to communicate with the 50, south of Smith's shaft, which end is also suspended, being driven far enough. In the 40, north of Smith's shaft, the lode is 2 ft. wide, worth 6*l.* per fm. Our stopes are much as usual.

WHEAL VINCENT.—Our new shaft on the course of the lode is sunk about 5 fms.; the lode produces some excellent work for tin, and the ground is very soft for sinking. We have also commenced sinking another shaft, about 70 fms. west on the same lode. In sinking the south engine-shaft, on the hill, the lode still produces some fair work. The stopes in the back of the 7 fm. level still continue to produce moderate work; the other parts of the mine are just as last reported. The severity of the weather has for the last few days almost put a stop to our dressing operations, both our floors being covered with a deep snow, and our stamps wheel nearly frozen up; however it appears to be going off, so that we hope again to carry on our work as usual.

— A later report states—The water is again in fork in the engine-shaft, and the lode in both ends is producing some excellent work. The new stamps are entirely kept to work from what is risen from the ends now driving. The lode and branches in the western end are 7 ft. wide, good work; the lode in the eastern end is 2½ ft. wide, real good work. We have this day taken down the south lode in No. 3 shaft and stopes, which we find to produce good work for tin. The stopes in the back of the 7 fm. level are improved since last taken down. The shaftmen have not taken down their lode this week, and are now engaged in cutting down a piece of ground in the western end of the shaft, so as to get down our pumps, &c., which will only take two or three days. Both the stamps are continuing at work.

FOREIGN MINES.

IMPERIAL BRAZILIAN MINING ASSOCIATION.

Bananal, Jan. 13.—Every exertion on my part shall be used to restore the works, &c., to a good condition; a great deal has already been done towards this point, but much more yet remains to do. We are changing the pump work here as fast as we can, taking out the old, and replacing it with new, and I have pleasure in saying that the beneficial results are very evident. Thomas's wheel is nearly falling to pieces, and cannot possibly hold together beyond two or three months longer. The iron wheel, however, will obviate any impediment to the prosecution of our underground works that might have arisen from this cause. The new works now in course of fixing are substantial, and calculated to last for many years. You may rely on my sending you as much gold as possible, for I beg to assure you that I have equally as much pleasure in sending as you have in receiving it. The little discovery of gold made last month has given great zest to our exertions, and materially strengthens the opinion that I always entertained of the capabilities of this mine. I will cheerfully render every assistance in my power to enable the Capts. Tregoning to carry out their plans, and I sincerely wish their sanguine anticipations may be realised, and I will do every thing in my power to put the mine, &c., in as good a condition as possible against their arrival. With regard to our last 10 days' operations here, I have very little to say in addition to my last communication, if I may except the gratifying circumstance of having again to notice a tolerable good gold produce from the stopes in the bottom of the 6 fm. level (a continuation of the same bunch). On Saturday, the 4th inst., a few boxes of work were obtained for the washing-house, which produced 8 lbs, 1 oz. 7 dwts., and subsequently, as shown by the gold returns, 9 lbs. 6 ozs. 6 dwts. more have been extracted, making the produce from the mine 18 lbs. 1 oz. 3 dwts,, which, added to that of the stamps, makes the total 22 lbs. 1 oz. 3 dwts. in the last 10 days. The vein, however, at present is not showing quite so good symptoms of productiveness as before, and we have very little more ground between the bottom of the stopes and the 14 fm. level to operate on; it is, however, a pleasing fact that a continuation of this shoot has passed through Gibson's shaft, and is, in all probability, the same as that alluded to in my P.S. of the 3d Nov., which produced some very good specimens. The sinking of Gibson's shaft calls for our greatest attention, and when down to the 24 fm. level will give us 13 fms. backs, on all the shoots of gold, four in number—viz.: Thomas's (always considered the principal), Magalhaes, and two in the Big Pump vein: these certainly must give us gold when the backs are laid open, and all the different places under regular prosecution. I have, indeed, strong hopes of being able to send you satisfactory returns from this ground; I am, therefore, very anxious to reach the proposed depth for our next levels. The water has considerably increased in Gibson's shaft, occasioned, I think, in a great measure by the very heavy rains lately fallen. We have been obliged to remove the 12-in. pump, and put a 20-in. in its stead, which is completely effective, and I hope to make good progress in sinking in future.

Gongo Soco.—Here we are getting on as fast as possible with the different works, but no new feature has presented itself since I last had the honor of addressing you. I intend visiting this place to-morrow, and hope to find the large axle from Catta Preta has reached its destination.—JOEL HITCHINS.

Extract from Messrs. Mackay, Mill, and Co.'s Letter, Dated Rio, Jan. 30.

On the 26th inst. we sent in to the Chamber of Deputies our petition, praying the reduction of duty on the gold taken from the mines of the association, and will use every exertion to ensure its favourable reception.

Gold Report.

From Gongo—from Jan. 3 to 10	*Lbs.*	2	9	3 0
From Bananal—from Jan. 3 to 4	*Lbs.*	8	1	7 0
,, Jan. 5		1	10	2 0
,, Jan. 7 to 10		7	8	4 0
,, Jan. 11 to 12		4	5	0 0—22 1 3 0
Total raised	*Lbs.*	24	10	6 0
Total from July 1 to Dec. 31	*Lbs.*	160	1	15 0
From Gongo—from 14th to 21st January	*Lbs.*	2	9	16 0
,, from 22d to 29th ditto		3	6	5 0—6 4 1 0
From Bananal—14th and 15th January		1	7	2 0
,, from 16th to 19th ditto		2	9	6 0
,, from 20th to 22d ditto		13	3	9 0
,, from 23d to 31st ditto		3	7	13 0—21 3 10 0
Total	*Lbs.*	27	7	11 0
From 1st to 31st January—Gongo	*Lbs.*	9	1	4 0
,, ,, Bananal		43	4	13 0—52 5 17 0

Capts. John and William Tregoning, with their party and machinery, arrived at Rio, per *John Panter*, on the 4th February, and have been dispatched to Gongo Soco.

LINARES MINES.—The following has been received from Mr. H. Thomas:

March 23.—The water is now down under the 31 fm. level 6 fms. 3 ft., and would have been deeper, but for some small hindrances in lowering the pumps. The engine is working 11 strokes per minute, and consuming 150 arrobas of wood in 24 hours. We have but little depth more to sink before we reach the attle, or rubbish, in the San Gaspar winze, which we shall clear as rapidly as we possibly can, in order to see the third level. The workings east of San Gaspar are very large, and everything seen, so far, confirms what we have heard of the lodes having been very productive in going down. Wilson's shaft is sunk 2 fms. under the 31 fm. level, partly through old workings. We are carrying this shaft large, to provide for the possibility of being obliged, hereafter, to fix pumps therein, though, as I before mentioned, it is impossible to say at present what will be the best course to adopt, the circumstances which may appear at the next level being our guide. San Juan shaft is sinking under the 17 fm. level, in favourable ground, being down 4 fms. Shaw's shaft is 2½ fms. under the 17 fm. level, and may be expected soon to sink more rapidly, one side of the shaft having reached the old workings, and will be continued on the course of the lode. The tribute pitches are just as last reported—viz., varying from 1 to 4 tons per fm., and the men getting fair wages at their respective tributes.

NATIONAL BRAZILIAN MINING ASSOCIATION.

Cocaes, Jan. 12.—During the last 10 days several hands have been employed in making a new road for the transmission of the ore from Hartley's western stope, which was completed yesterday, and the people will, therefore, resume operations at that place in the course of a few days. At Hamilton's lower stope the ground still continues favourable for extending, and the southern vein in it pretty good, but not so rich as it was a month ago The sample found yesterday, however, which produced nearly 3 ozs. of gold, exceeds anything obtained during the past 10 days, which is very encouraging, and we have now great hopes of an improvement.

Cocaes produce from the 4th to the 14th January ..... *Mks.* 15 0 2 8

Feb. 2.—On account of the hindrances that have occurred since the last report, which will be herein mentioned, you are aware that the usual quantity of work has not been performed in the stopes, and the supply of ore to the stamps not so great as during the preceding 10 days. The hindrances alluded to were occasioned by the breaking down of the Cavaco shaft. You are aware, from previous reports, that the shaft was thoroughly repaired about three months ago with the best rosewood, and other timber of equal durability; and, notwithstanding every precaution—such as making drains at surface, and all the levels below examined by the timberman, and made quite secure, in order, if possible, to keep it open during the present wet season—it has all been to no purpose. After a very heavy fall of rain on the 24th ult., the shaft crushed, or rather slid towards the north, making way, of course, from the pulley-frames, which, together with part of the whim, disappeared in a few minutes; and it being too dangerous to approach to remove that part of the whim which remained, it has since nearly all fallen into the hollow made by the stuff giving way from below.

Feb. 4.—All the English, and a great number of negroes, were required immediately to drive through the rubbish, and make a new tramroad, which was done to a distance of 7 fms. from the eastern side of the shaft in four days, and the place is now much more secure than before, and the operations going on as usual.

Cuiaba, Jan. 27.—It affords me much pleasure in handing you the account of our improved produce, and of much more cheering prospects than I had dared to hope the realisation of for a long time past; the former figures at mks. 2 1 0 6 for the present post; and the latter present to us an improving stopes, ample for the operations of our reduced force, and an almost completed winze, by which a large quantity of stone can be supplied, at little cost.

Cocaes produce—from 15th to 24th January	*Mks.*	17	6	7 14	
,, from 25th January to 4th February		6	3	1 7 0—24	2 1 1$_{6}$
Cuiaba produce—from 8th to 17th January		1	4	0 20	
,, from 18th to 27th January		2	1	0 6—3	1 4 26
Total produce	*Mks.*	27	3	5 38	

ST. JOHN DEL REY MINING ASSOCIATION.

Extract of Letters from Morro Velho, dated Jan. 18, 28, *and Feb.* 7, *received April* 5.

Jan. 18.—Gold extracted to date, 7602 oitavas, from 444 cubic feet of sand (result of 11 days' stamping), 17·12 oitavas per cubic foot. Stamps working 17 days, average 84·81 heads. The supply of ore is not so abundant as it ought to be, owing to the illness of the Brazilian borers; the consequence is, we are obliged to send a good deal of stone to the stamps, which, under more favourable circumstances, we should have rejected.

Jan. 28.—Gold extracted to date, 14,239 oitavas, from 854·63 cubic feet of sand (result of 21 days' stamping), equal to 16·66 oitavas per cubic foot. Stamps working 27 days, average 94·54 heads. The supply of stone, though not of first quality, continues ample for the wants of the stamps. During the first 11 days, indeed, we were hardly enabled to reject any of the inferior; since that, however, we have been enabled to throw out about 100 tons.

Brazilian Borers.—I am happy to inform you that this description of force is still on the increase. In Jan., 1849, their numbers amounted in general from 30 to 35, nor was there any material change till August last, when their number began to creep up, but slowly; towards the end of Sept. they exceeded 60. During this last week they exceeded 70, one day 75; and, from the information I am in possession of, I have reason to hope they will soon reach 80, or upwards.

Feb. 7.—Produce for January 21,473 oits.=206·29 lbs., from 5505 tons of ore, yielding 39·10 oits. per ton. The falling off in the produce may be partly accounted for by the unusual quantity of killas sent up during the month from the bar of killas which intervenes between the bunch and the north branch lode. We have at present, and shall have for some months to come, all the disadvantages of this additional quantity of killas, without any additional lode (stone) as a counterbalance. At the expiration of a few months, however, the branch lode will be fairly thrown open, and thenceforward the untoward disproportion between the killas and the lode in this part of the mine will cease. The stamps working during the month average 94·35 heads. The supply of stone has not been so abundant as could have been wished, considering the large quantity of killas it contained, and which ought, if practicable, to have been thrown out; as it was, we were enabled to reject only 132 tons, leaving the average standard of what was stamped, at the low figure of 39·10, as compared with 4·35 oits. per ton in December.

Cost for January—Rs. 41,416 746; exchange 28		£4831 19 1
Produce	21,473 oitavas.	
Less duty 5 per cent.	1,073 ,,	
	20,400 oitavas, at 7s. 8½d.	7830 12 0
Profit		£2998 12 11

BAROSSA RANGE MINING COMPANY.

The annual general meeting of this company was held at the offices, Bedford-row, on Tuesday, the 2d inst., and was numerously attended. Various reports from the colony were laid before the meeting, and a statement of the affairs made. Between 50 and 60 tons of copper ore were reported to be on their way to this country, and the mining prospects most encouraging. A hope was expressed by the directors that the present excessive dues reserved by the South Australian Company for the minerals raised in their lands would be re-adjusted upon fair and equitable terms, similar to those reserved by Mr. Angas and other proprietors.—The accounts were adopted, the retiring officers re-elected, and a vote of thanks passed to the directors for their services.

COMPANY OF COPPER MINERS IN ENGLAND.

A general court of this company was held on Wednesday, the 3d instant.

JOHN HENRY PELLY, Esq. (Deputy-Governor), in the chair.

Mr. TATE (the accountant) read the minutes of the last meeting, which were confirmed.

Mr. PELLY stated, that the meeting had been convened for the purpose of electing a governor, deputy-governor, and court of assistants, for the year ensuing. He could assure them the present directors had no wish to be re-elected, and left it entirely in the hands of the shareholders.

Mr. GILBERTSON, on behalf of the shareholders' committee, stated that, in the present crisis of the company's affairs, they would find it difficult to obtain gentlemen willing to take office. Should the bill before Parliament be passed, a new election under its provisions must shortly take place; he, therefore, suggested that the present governor, deputy-governor, and court of assistants, be re-elected. One of the latter body, Mr. Joseph de Vitree, having refused to act, in his place he proposed Mr. John Moses Carter.—Mr. FOWLER seconded Mr. Gilbertson's proposition, which was unanimously carried.

It was moved by HENRY HENDERSON, Esq., and seconded by JOHN ASHTON YATES, Esq, and carried unanimously,—That the thanks of the court be given to the shareholders' committee, and that they be requested to continue their efforts for the resuscitation of the company's affairs, and to use their best endeavours to get the bill now before Parliament passed into law.

It was moved by CORBET HILL, Esq., and seconded by A. F. C. LAURIE, Esq., and carried unanimously,—That it is the opinion of this court, that Mr. Lorn's application for a "mandamus" should be opposed, and that the expenses of such opposition should be borne rateably by the whole body of proprietors.—The members of the court were then sworn, with the exception of the governor, who was unfortunately absent on account of indisposition, and the new member.

The court then separated. The meeting was but thinly attended.

GUADALCANAL SILVER MINING ASSOCIATION.

A special meeting of the shareholders was held at the offices of the company Broad-street Buildings, on Wednesday last, the 3d inst.,

G. K. HUXLEY, Esq., in the chair.

Mr. RYDE, the secretary, having read the advertisement convening the meeting, Mr. Duncan, the company's solicitor, proceeded to explain and comment on the Deed of Settlement, which had been prepared in accordance with a resolution at the last meeting, on 11th March last. It was a voluminous document, contained in 147 brief-sheet pages, and was, we believe, founded on a similar document, drawn up for the Worthing (South Australian) Company, and which has been looked upon as a model, under the circumstances of an English company working foreign mines. It stated the agreement as between three trustees and the directors; it recited the objects of the company as being for the purpose of working certain mines in Spain and selling the ores, and eventually, if found successful, of smelting; it stated the capital as 30,000*l.*, in 6000 shares of 5*l.* each, 2000 of which were preference shares. The first annual general meeting of the association is to take place on the third Thursday in May; with respect to voting, five shares to entitle the holder to one vote, 10 to two, and one additional vote for every other five shares held. It proposed that on the first retirement, or death of a director, the vacancy should not be filled up, the number to remain at six, with a remuneration fixed, as under the original scrip deed, at 350*l.* per annum (the directors have not yet received anything); the qualification for a director to be 20 shares; with numerous other clauses as to

liabilities of shareholders, dissolution of the company, with a power given to two general meetings to raise the capital to 100,000*l.*, if necessary.

A resolution was then moved by Mr. DUNCAN, and seconded by Mr. PHILLIPS, that the deed be approved and forwarded to the registrar without delay, and that it then be laid on the table for the perusal of the proprietors, when some discussion ensued on the sending Capt. Rule to inspect the mine to report, as decided upon by a resolution of the last meeting.

The CHAIRMAN said that, in consequence of 600*l.* worth of silver ore having been sold to a party in Spain, who could not make his payment good, it would have to be sent to this country; and, in the meantime, Mr. Shaw had drawn upon the directors for the monthly remittance in advance, and they, consequently, had not, in fact, the amount on hand to pay Capt. Rule for his inspection.

Mr. LA'MERT then endeavoured again to introduce a discussion on the finances, particularly as to how the directors had disbursed the receipts since September last, which had been fully explained at the last meeting. He said the continuance or otherwise of the company depended on Capt. Rule's report; if it were favourable, he could say advisedly that 10,000*l.* could immediately be raised to work the mine with spirit; but if otherwise, he should say not another shilling would be paid.

After a good deal of discussion, it was at length agreed that Messrs. J. and S. La'Mert should find the 150*l.* for payment of Capt. Rule, that sum to be credited them for calls due on their shares; that the deed should be merely forwarded to the registrar, but, when approved and returned, not to be re-engrossed, nor any further expense incurred that it was possible to avoid. By this arrangement, holders of the last shares could still secure the preference by payment on or bethe 8th April. The deed would afterwards lie for perusal and signature until Capt. Rule's report arrived.—A vote of thanks was passed to the chairman, and the meeting separated.

CEFN GWYN MINING COMPANY.

At a meeting of adventurerers, held in March, the accounts were examined and passed, showing—Costs from Nov., 1848, to Jan., 1850, 628*l.* 7s. 6d.—Call, 500*l.*: leaving balance against the mine, 128*l.* 7s.—Mr. Joseph Tredinnick was appointed purser in the room of Mr. Tredinnick, at a salary of 3*l.* 3s. per month, Capt. Trevethan having signified his desire to give up 2*l.* 2s. of his salary of 5*l.* 5s. per month, until the mine became profitable, the same was accepted with thanks. A call of 10s. per share was made.—The following report, from Capt. Sampson Trevethan, was read to the meeting:—

Since November, 1848, when we commenced operations, by driving east and west on the course of the main lode, we have laid open a section of ground on its course, upwards of 60 fms. in length; the lode throughout has been from 6 ft. to 8 ft. wide, composed of killas, blende, spar, and lead ore, several tons of which are now at the surface, and without being rich in quality, is what every miner would call a strong and highly-promising lode. For the present we have suspended the levels east and west, and placed the men (nine in number) to sink a shaft, east of the river, on the course of the lode, 8 ft. long, and 6 ft. wide, capable of being used as an engine, drawing, and footway shaft; the lode in the bottom of the shaft, now 4 fms. deep, is 9 ft. wide, 6 ft. of which produces upwards of 1 ton of silver-lead ore per fathom, and, from appearances, warrants me in recommending you to continue the sinking of it with all dispatch, and driving a 10 fm. level east and west of the same, as the lode in the adit level is highly mineralised for upwards of 40 fms. in length; to accomplish this object, it will be necessary to make a call of 10s. per share, before which is expended I hope to be in a position to prove to you that the mine is not only a most promising speculation, but also highly productive.

GREAT ROUGH TOR CONSOLS MINING COMPANY.

A general meeting of shareholders was held at the offices, on Thursday, the 4th inst., when the statement of accounts for the past seven months was presented, showing a balance of 531*l.* 11s. 6d. against mine. A call of 3*l.* 10s. per share was made, which will meet the costs up the month of October next.

The following report, from Capt. Thomas Richards, was read to the meeting:

April 4.—I beg to hand you the few following particulars on the progress and prospects of this mine. The 45 fm. level is extended east of Morris's shaft about 19 fms.; the ground in this level has been of a very promising character, containing throughout, more or less, branches with spar, mundic, grey and black ore; and having got in on the main part of the lode for the last 6 fms. driven, we find an improvement, showing more of grey and black ore, and from which there have been broken 3 or 4 tons of good quality, evidently showing a great improvement compared with the level above (the 30), which has not been driven for the last few months, as it was thought enough had been done at so shallow a depth. The shaft is now being sunk below the 45 fm. level with a force of 12 men, the present depth of which is about 4½ fms., and although the ground is not hard, it is much mixed up with branches, and difficult to break; should the ground continue as it now is, the future sinking will be about 10 feet per month. The branches throughout the shaft contain stones and spots of grey and black ore, and here also an improvement may be expected in depth. The north cross-cut has been driven altogether about 36 fms., in which several branches have been discovered, and it is more than probable that the caunter lode is broken up into these branches, the whole of which, according to the present inclination, will fall into the main lode in depth. The pitwork has all been altered, from the bottom of the mine to the surface, by replacing the drawing lift, and putting down a plunger to the 45 fm. level, and a drawing lift below, the whole of which is now in good working order.

WHEAL COURTENAY COPPER MINING COMPANY.

A general meeting of adventurers took place on Saturday, the 30th March, to receive a report of the company's affairs, and for the purpose of making a call of 2*l.* per share.—Mr. METZLER, the chairman, read a letter from Capt. Lowry respecting the workings of the mine, and the apparent prospects, which gave general satisfaction to the shareholders present. The main shaft had been sunk the depth proposed at the last general meeting, and a cross-cut, to intersect the lode, was just commenced. All the funds at the command of the committee had been exhausted, but the call of 2*l.* per share, which was cheerfully complied with by the adventurers, will enable the committee of management to continue the works for some months to come; and it is hoped, from the information received from the captain, that no further calls will be necessary. The chairman impressed upon the shareholders the importance of paying the respective amounts due on or before the day appointed for the payment.

WELLINGTON MINES.—At a meeting of adventurers held on 28th inst., at the offices, George-yard, Lombard-street, the accounts were examined and passed, showing—Balance last account, 54*l.* 3s. 1d.; copper ores sold, Dec. 13, 739*l.* 6s.; tinstuff, Jan. 14, 50*l.* 1s. (less dues, 43*l.* 17s.)=799*l.* 13s. 1d.—By labour cost November, 220*l.* 1s. 11d.; ditto Dec., 278*l.* 2s. 3d.; merchants' bills, 151*l.* 14s. 6d.—leaving balance in favour of mine, 148*l.* 14s. 5d. A report from Capt. White was read, stating that the engine-shaft was sunk 17 feet under the 42 fm. level, ground more favourable than it had been; the lode was 18 inches wide, with a branch of copper ore, worth 5*l.* per fm. Parcelly shaft was sunk 3 fms. under the 32 fm. level, lode from 1 to 2 ft. wide, worth 8*l.* to 10*l.* per fm. In the end of the 32 fm. level the lode is worth 12*l.* per fm., and 14 fms. behind this end there is the best bunch of copper and tin gone down under the 22 that was seen in that level. In driving north-west of the engine-shaft, and in sinking a winze, the lode is 16 to 18 in. wide, worth 30*l.* per fm.; the lode driving east is 18 in. wide, worth 9*l.* per fm., in a beautiful channel of ground. The copper sampling on the 26th inst., was 150 tons.

WHEAL BASSET.—At a meeting of adventurers, held on the 2d inst., the accounts were examined and passed, showing—Copper ores sold in January, 4335*l.* 16s. 8d.; tin ditto, Feb. and March, 676*l.* 19s. 2d. (less dues, 334*l.* 3s. 8d.) = 4678*l.* 12s. 2d.—Labour cost, Jan. and Feb., 1760*l.* 16s. 9d.; merchants' bills, 959*l.* 17s. 8d.: leaving profit on the two months, 1957*l.* 17s. 9d., to which add balance last account, 480*l.* 7s. 7d. = 2538*l.* 5s. 4d.: from which deduct the dividend of 15*l.* per share, declared this day, 1920*l.*, leaves balance in favour of mine to next account, 518*l.* 5s. 4d.

KINZIGTHAL MINING ASSOCIATION.—In the advertisement, in last week's Journal, announcing the forthcoming annual meeting of this company, it was erroneously stated to take place on the 29th, instead of Saturday, the 20th of April next.

WHEAL SARAH.—The crusher for preparing the silver-lead gossan from the 20 fm. level, is now ready, and will be erected on the mine without delay. The agent has been directed to raise 30 tons as a sample, and prepare it, together with the quantity already at surface, for market; in the meantime, operations are going on upon the lode in the 30 fm. level, which, as last reported, is worth 50*l.* per fathom. Mr. Murray has delivered his report (after two inspections), which will be printed for the information of the adventurers and the public

CALIFORNIA IN LONDON.—We have been much entertained and pleased with a private view of a panorama in preparation for exhibition at the Egyptian Hall, showing the overland route from the States to the far-famed gold regions, particularly illustrative of the great and original laborious journey and valuable discoveries of Col. Fremont. The panorama is most striking in its details, the more especially in its views of the pass *viâ* the Rocky Mountains, the prairies, the bay, and town of San Francisco, the diggings and encampments in California. There is a most attractive and new feature, showing the prairies on fire, buffalo snaring, &c. In every particular this exhibition will be instructive to the scientific, and entertaining and amusing to all.

THE PICTURESQUE EXHIBITION.—A view of Snowdon has just been added to the panoramic sketches illustrative of the route taken by the traveller to North Wales by rail. This picture is also a production by Mr J. W. Allen, and is certainly a very charming one, and worthy the pencil of this talented artist. The discourse delivered by Mr. Clarke to illustrate the passing scenes is highly interesting, and contains a fund of useful information.

KEATING'S COUGH LOZENGES.—The following testimonial of the efficacy of these lozenges, in the cure of asthma of several years' standing, has been received by Mr. Keating, from Mr. W. J. Trigg, dated Cainscross, near Stroud, Gloucestershire, March 20th, 1850:—"Having been troubled with asthma for several years, I could find no relief from any medicine whatever, until I was induced about two years ago to try a box of your valuable lozenges, and found such relief from them, that I am determined for the future never to be without a box of them in the house, and will do all in my power to recommend them to my friends. If you consider the above testimonial of any advantage, you are quite at liberty to make what use of it you please."

LATEST CURRENT PRICES OF METALS.

LONDON, APRIL 5, 1850.

ENGLISH IRON. *a*	*per ton.*	Tile	£37 10 0
Bar, bolt, & square, London	£5 15—6 0	Old copper *e*	*per lb.* 8½*d*
Nail rods	6 15 0	Yellow Metal Sheathing	8½*d*
Hoops	7 15 0—8	**FOREIGN COPPER.** *f*	
Sheets (singles)	8 5—8 15	Russian, PSI	——
Bars, at Cardiff & Newport	4 15—5 0	**ENGLISH LEAD.** *g*	
Refined metal, Wales*	3 5—3 10	Pig	*per ton* 18 5–18 10
Do. anthracite*	3 15 0	Sheet	19 5–19 15
Pigs in Wales	3 5 0	Pipe	20 0 0
Do. do. forge	2 15 0	Red lead	19 10 0
Do., No. 1, Clyde ... *net cash*	2 2—2 4	White ditto	25 0 0
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	3 15 0	Patent shot	21 0 0
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0	**FOREIGN LEAD.** *h*	
Stirling's Patent } in Glasgow	2 17—3 0	Spanish, in bond	17 10—18
Toughened Pigs } in Wales	3 10—3 15	**ENGLISH TIN.** *i*	
Staffordshire bars, at the works	5 17 6—6	Block	*per cwt.* 4 0 0
Pigs, in Staffordshire	3 5 0	Bar	4 1 0
Rails	5 5 0	Refined	4 11 0
Chairs	4 0 0	**FOREIGN TIN.** *k*	
FOREIGN IRON. *b*		Banca, H. C.	3 17—3 18
Swedish	12 10–13 0	Ditto, for Export only	3 15 0
CCND	——	Straits	3 15—3 17
PSI	——	**TIN-PLATES.** *l*	
Gourieff	——	IC Coke	*per box* 1 8 0
Archangel	——	IC Charcoal	1 12—1 13
FOREIGN STEEL. *c*		IX ditto	1 18 0
Swedish keg	14 15 0	**SPELTER.** *m*	
Ditto faggot	15 0 0	Plates, warehoused	*per ton* 15 5–15 7 6
ENGLISH COPPER. *d*		Ditto, to arrive	15 0 0
Sheets, sheathing, & bolts, *p. lb.*	0 0 10	**ZINC.** *n*	
Tough cake	*per ton* 88 10 0	English sheet	*per ton* 21 0—22
		QUICKSILVER *o*	*per lb.* 4*s.*

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis; *e*, 6 months, or 2½ per cent. dis.; *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.

* Cold-blast, free on board in Wales.

REMARKS.—Lead is dull of sale, the last mail from the States not having realised the expectations of the large holders. Soft Spanish may be had at 17*l.* 10s., Cornish at 17*l.* 15s., and W. B. at 18*l.* 10s. In spelter a large business has been done; about 400 tons at 15*l.* 10s., 100 tons at 15*l.* 7s. 6d., 500 tons at 15*l.* 5s., and 400 tons at 15*l.* The articles seems now to have attracted the notice of shippers and consumers, and higher prices may be expected. Scotch pig-iron remains quite neglected; good merchantable brands, mixed Nos. at 43s. 6d., Garisherrie, No. 1, at 44s. 6d. English bar-iron has been more enquired for this week, in consequence of a report that the makers intend reducing the production. Cargoes may be purchased (in second hands) at 4*l.* 15s.; makers refuse to sell under 5*l.*

LIVERPOOL, APRIL 4.—The iron market sympathises with the generally dull state of trade, and is in an inactive condition. Scotch pigs are very dull of sale, with a good many speculative parcels pressing upon the market. Sales of mixed bars have been made at 92s. 6d. per ton at Glasgow; but there is no disposition to buy more than necessity requires in the face of a stock of 250,000 tons, to which some 5000 tons are weekly added. The prices of lead and copper are much supported, with a good demand. Tin-plates are also in request at former rates.

MANCHESTER, APRIL 2.—The dulness lately noticed still continues; in fact, so limited have been transactions in iron of late, that prices may be considered as little more than nominal. Whether this inactivity can last for any length of time must, we think, in a great measure depend upon the state of general business in the district, but while this continues to be so unsatisfactory, it would be unreasonable to look for any decided improvement in this market.

GLASGOW, APRIL 3.—The pig-iron market has been exceedingly dull this week. The price has given way about 6d. per ton, and may now be quoted at 43s. 6d. for mixed Nos., cash.

NEW YORK, MARCH 19.—Copper, spelter, and zinc are firmer in price, and scarcer in quantity. English bar iron is dull, and declining. Scotch pigs are inactive and without demand. Lead is in demand—the sales for the last fortnight embrace 12,000 to 14,000 pigs Missouri, 200 tons English, 100 tons Spanish, to arrive. The stock of lead is reduced to 200 tons of foreign, and 17,000 pigs of Missouri. Higher rates are now looked for. Accounts from Missouri state that the prodnction will be nearly one-fourth short of last year, when we imported from Europe 70,000 tons. Banca tin has fallen, owing to the decline in Holland. Sales of 1000 slabs have been made on speculation. Plates are scarce and wanted.

PHILADELPHIA, MARCH 20.—Iron is tolerably brisk, though I do not think this activity is caused by any probability of an increase in the tariff, but simply by demand. English bars sell at $42, six months; Scotch pig $23 50c., fast advancing to $28.

CALCUTTA, FEB. 20.—In copper a tendency towards better prices has of late been visible. Stocks of iron keep large, without increased demand for any description. From the upper provinces we at length hear of better accounts for spelter, and though its value here remains stationary, we still note a few small sales; an advancement which, however, we suppose to be of a speculative nature. In lead some transactions are reported at an improvement.

BOMBAY, MARCH 2.—A slight change for the better has taken place in the metal market of late, and now that the native dealers have got through with their holidays, it is hoped the demand for metals will become more brisk than it has for some time past been. Copper in general continues dull, the only exception being South American, the price of which has advanced 10 rs. per cwt. Spelter and Swedish steel are still low in price, and dull of sale. For British nail rod and bar iron of good assortment a moderate demand exists. Tin plates have slightly improved; and pig and sheet lead maintain their former value.

New Patents.

SPECIFICATIONS ENROLLED DURING THE PAST WEEK.

WILLIAM BROWNE, of St. Austil, Cornwall, mine agent, and RICHARD ROWE VEALE, of St. Columb Major, in the said county, gentleman: For improvements in preparing for pulverization, flint, stone, china-stone, ores, minerals, spars, sands, earths, and other substances. The patentees remark that the pulverization of the various substances enumerated in the title of the patent is a long and expensive process, even though they may have been previously calcined, and that their invention has for its object to remedy that objection by first heating the flint, stone, &c., to a high temperature, but not high enough to fuse them, and then subjecting them, while at this high temperature, to the action of cold water. Instead of cold water, hot water or steam may be used.

Claim.—Preparing for pulverization, flint, stone, china-stone, ores, minerals, spars, sands, earths, and other substances, by subjecting them to a high temperature without fuzing them, and then to the action of water.

WILLIAM EDWARD NEWTON, Chancery-lane, C.E.: For improvements in the manufacture of knobs for doors, articles of furniture, or other purposes, and in connecting metallic attachments to articles made of glass or other analogous materials. (A communication.) The patentee describes and claims the constructing of the metal shanks in the shape of a tube with a longitudinal slit, or with the end closed, and having slots in the side, or with diverging flanges, in order that the metal may be as thin as is compatible with strength, thereby affording a centre vent, offering no obstruction to the crystallisation of the substance, and diminishing the chance of fracture from unequal contraction or expansion of the metal and vitrified material.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

W. W. Bonney, Fulham, safety-boat.
W. Kidston and Co., Bishopsgate-street, double-action pump.
A. Grant, and Brothers, Clement's-court, Wood-street, the "Fleur de Lis Parasol."
W. Robertson, Glasgow, mineral discharger.
T. Dean, and R. Thorburn, Wishaw, Broxbourn, drain-tile cutting apparatus.
F. Wilson, Leeds, weighting and driving apparatus, to be applied to the rollers of wool washing, calendering, and other machines of similar construction.
F. Parker, Boston, signal apparatus.
W. Harding, New Oxford-street, the Arden clasp.
T. Day, and C. Martin, Birmingham, rotary heel for boots and shoes.
T. Waddington, Manchester, paragon neck tie.
S. Last, Oxford-street, and New Bond-street, tient-tout or railway portmanteau.
W. Williams, Gutter-lane, fastening and band for shirt collars.
The Ainslie Brick and Tile Machine Company, Piccadilly, pipe-socket mould, pallet, and cutter.—*Mechanics' Magazine.*

WIGAN COMPETING WITH NEWCASTLE.—We understand that the directors of the London and North-Western Railway Company have entered into a contract, with certain coal proprietors at Wigan, to forward coals to London at the rate of ½d. per ton per mile. This will amount to about 9s. per ton for the whole distance from Wigan to London; and, as the terms of the contract are that 200 tons shall be forwarded daily, the income from this source alone will be about 40*l.* a day, or 12,520*l.* a year, excluding Sundays. It would be premature to say what effect this new arrangement may have in reducing the price of coals in London; but we have no doubt that when it has come fairly into operation, it will tend to cheapen them considerably.

PERFECT CONSUMPTION OF FUEL ON STEAM BOATS.—On Wednesday, the *Ariel*, steam-vessel, from the Government department at Woolwich, fitted-up with a so-called smoke consuming apparatus, went down the river under the charge of the proprietors of the invention, with their own engineer, stokers, &c., on an official trial. They started early in the forenoon, sailing up and down the river, and returned to Woolwich at 3 o'clock in the afternoon. The result is said to have been satisfactory, having kept up the full power of the engines for five hours on 1½ ton of coal, instead of 2½ tons, required without the smoke-consuming apparatus; but, as we have not the slightest information as to the nature of the plan, we cannot, of course, form any opinion as to its value for the purposes intended.

ABERDEEN RAILWAY.—This line was permanently opened on Easter Monday, with five departures and arrivals, giving a clear route of 500 miles from Euston-square.

GLASGOW, DUMFRIES, AND CARLISLE RAILWAY.—The works on this line are nearly completed between New Cumnock and Auchinlech, and the line will be opened to those points in June. The works to the tunnel at Drumlanrig are advancing, and will be completed by Sept., which will then leave only seven or eight miles of unfinished route between Glasgow and Dumfries.

GREAT NORTHERN RAILWAY.—This company are preparing to erect their London passenger station, north of the Regent's Canal, by Maiden-lane, in view of the intended opening of the main line between London and Peterborough in July next.

Current Prices of Stocks, Shares, & Metals

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 8 per Cent., —	Belgian, 4½ per Cent., 90 83¼
3 per Cent. Reduced Ann., —	Dutch, 2½ per Cent., 55½
3 per Cent. Consols Ann., 95½ ⅝ 6 ½	Brazilian, 5 per Cent., 86½
3½ per Cent. Ann., —	Chilian, 6 per Cent., 97½ 6½
Long Annuities, —	Mexican 5 per Cent., ex Coup., 28¾ ½
India Stock, 10½ per Cent., —	Russian, 5 per Cent., 107
3 per Cent. Con, for 11th Apr. 96½ ⅝ ½ 6	Spanish, 5 per Cent, 17½
Exchcq. Bills, 1000*l.*, 1½d. 66s 69 pm.	Ditto 3 per Cent., 37½ ½ ½

MINES.—Notwithstanding the holidays, there has been a very fair amount of business done during the week, and from present prospects we may reasonably calculate on an active market during the coming one.

Several Devon Great Consols shares have changed hands during the week. The accounts, which are in course of preparation for the annual meeting, will show that the assets, over liabilities, will exceed the amount of last year by upwards of 12,000*l.*

Heigngton Down Consols is reported to have very much improved, and shares have been in request at former quotations, and business done at an advance.

Trelawny shares have been enquired for; the sale of 139 tons of silver-lead ore, sold this week, realised upwards of 2300*l.*

South Tolgus, Stray Park, Carn Brea, Bedford United, and Treviskey and Barrier shares have been in demand.

At South Basset meeting, the statement of accounts presented showed a profit of 1957*l.* 17s. 9d. for Jan. and Feb. workings. A dividend of 15*l.* per share was declared, leaving balance of 518*l.* 5s. 4d. to next account. The mine is reported to be looking remarkably well; the shares were increased to 256.

The Lisburne Mines, in Cardigan, under the management of Messrs. J. Taylor and Son, declared, on Thursday, the 4th inst., a dividend of 1500*l.* for the two months' working, being 15*l.* per share. The shares are in demand, and the mines in a highly-productive position.

At the Cefn-Gwyn meeting, it appeared the costs from the commencement had been 628*l.* 7s. 6d., leaving a balance against the mine of 128*l.* 7s. A call of 10s. per share was made.

At the Great Rough Tor Consols meeting, the accounts for the past seven months showed balance of 531*l.* 11s. 6d. against the mine, to discharge which, and to provide for the estimated expenditure till October next, a call of 3*l.* 10s. per share was made, when it is fully anticipated that some important improvements will have been made. The present prospects are more cheering than they have hitherto been.

The Wellington Mines bi-monthly account showed balance of 149*l.* 14s. 5d. in favour of adventurers. The mines are reported to be looking highly encouraging—150 tons of copper were sampled on the 26th.

From the western part of Cornwall we learn that several of the mines have considerably improved of late, and important discoveries have been made.

Alfred Consols continues progressively improving. Botallack and Levant exhibit very great improvements. At Bosorn they have a beautiful rich course of ore in the bottom level, and shares have much advanced. Boswidden is much improved, and in the locality shares are in demand.

Twenty tons of ore have been sold at Bryn-arian, at 13*l.* per ton. The mine is said to be looking very well—the ore better for silver on sinking deeper.

At the Wheal Courtenay meeting, a call of 2*l.* per share was made. A report from the agent was read, which was highly satisfactory, and it is expected no further calls would be required.

At the Guadalcanal meeting, the deed of settlement, which had been prepared according to a resolution at a previous meeting, was read and explained by Mr. Duncan, the solicitor, and was eventually approved, and ordered to be immediately laid before the registrar for his approval.

At the annual meeting of the Barossa Range Mining Company, the accounts were audited, and other official business transacted. The reports represent the prospect of the mines encouraging, and that between 50 and 60 tons of copper ore had been shipped for England.

Shares in the following mines have changed hands since our last:—Devon Great Consols, Treviskey and Barrier, Trelawny, South Basset, South Tolgus, Stray Park, Daren Mines, Penzance Consols, Heigngton Downs, Trehane, Botallack, East Wheal Rose, West Caradon, Bedford United, Callington, South Tamar, West Providence, Grambler, Gustavus, Pendarves, Trethellan, Herodsfoot, Bwlch, Esgair Llee, Lamherooe Wheal Maria, Wheal Vincent, Wheal Sarah, Pennant and Craigwen, &c.

In Foreign Mines there have been several transactions, especially in Imperial and National Brazilians, United Mexican, Santiago, and Cobre shares. Copiapo, Linares, St. John del Rey, and General Mining shares have been done.

The Imperial Brazilian Company have received advices to the 13th of Jan. from the mines. The continuation of the improvements, noticed in our last, are confirmed, and the prospects generally are very gratifying. The gold report from Gongo Soco and Bananal, from the 2d January to 13th, is given at 24 lbs. 10 ozs. 6 dwts. By the mail packet, *Seagull*, since arrived, letters to the 2d Feb. have been received, which furnish the returns to that date—being 27 lbs. 7 ozs. 11 dwts. from both mines; from 1st January to 31st, Gongo Soco, 9 lbs. 1 oz. 4 dwts.; Bananal, 43 lbs. 4 ozs. 13 dwts.—total, 52 lbs. 5 ozs. 17 dwts.

The National Brazilian letters have been received to the 14th of January, which are of a satisfactory nature, advising further improvements. The produce from Cocaes, from the 4th to the 14th Jan., is given at mks. 15 0 2 8. Letters have been received by the *Seagull*, advising returns—from Cocaes, from 15th Jan. to 4th of Feb., mks. 24 2 1 12; Cuiaba, 8th to 27th of Jan., 3 1 4 26=mks. 27 3 5 38.

The St. John del Rey letters, with the report for Jan., have been received. The produce for the month is given at 21,473 oitavas—making a profit of 2998*l.* 12s. 11d.

The Linares report of the 24th March, states the operations to be progressing very satisfactorily, and that the tribute pitches continue as productive as before reported.

HULL, THURSDAY.—The share market is without any excitement, and the amount of business transacted is very insignificant. When the worst is known with regard to railways, and there cannot be much concealed now, they must inevitably improve.

WEST INDIA MAIL.—The *Teviot* arrived at Southampton yesterday morning, having on freight $946,878 from Chagres; 500 ozs. 13 dwts. gold dust, 895 ozs. 12 dwts. silver, 180*l.* platina, 896*l.* 2s. British coin, 123 serons indigo, 21 cases arrowroot, 126 bales sarsaparilla, 3 cases tortoiseshell, 2 cases balsam of toulou, 10 cases succades, 12 cases live plants, and 49 packages of sundries.

CONTRACT FOR COALS.—The Finance Committee of the India House will be ready, on or before the 10th inst., to receive tenders for 3000 tons of coals, to be delivered at Aden, on the south coast of Arabia.

EMPLOYMENT ON RAILWAYS.—Yesterday a parliamentary document was printed, showing that on the 30th of June last there were 159,784 persons employed on railways, of which 55,968 were employed on railways open, and 103,816 on railways not then open. On the 30th June the total length of railways open was 5447 miles and 10¾ chains; the length in the course of construction on that day was 1504 miles and 20½ chains; and 5132 miles and 38¾ chains neither open nor in the course of construction, making 12,083 miles and 70 chains authorised to be used for the conveyance of passengers.

RAILWAY CALLS FOR APRIL.—The total amount of calls for this month so far as at present advertised, is 304,776*l.* against 884,249*l.* in the corresponding month of 1849, 2,759,795*l.* in 1848, and 4,314,955*l.* in 1847, for the same period. The proportion called by foreign companies is 14,808*l.* The total amount for the first four months of the present year is 4,559,982*l.*, against 9,444,922*l.* for the corresponding period of 1849, 13,028,478*l.* in 1848, and 15,373,749 in 1847.

An iron bridge, of very large dimensions, is now in course of construction at the extensive iron foundry of Messrs. Finch and Willey, Windsor. Its extreme length will be 600 feet, there being four arches or spans, one of 300 feet and three of 100 feet each. The bridge, which has been designed by Mr. Brunel, C.E., is for the South Wales Railway Company, and will be thrown across the River Wye, at Chepstow.

PROGRESS OF THE ELECTRIC TELEGRAPH IN AUSTRIA.—At the end of the year 1849, the telegraph was in complete operation on the road from Vienna by Almutz to Prague, a distance of 279½ miles; by Brünn to Prague, 249 miles; to Presburg, 40½; to Oderburg, 17¾; to Trieste, 325 miles. The line from the capital to Salzburg, by Luiz, will be shortly finished, and in a few months it is expected that from Prague to the frontiers of Saxony will be in operation. The line from Vienna to Munich is likewise in activity, and since the 10th of Jan. the *Gazette d'Augsburg* has been enabled to publish the course of Exchange in Munich, 20 minutes after it has been declared in Vienna.

MINING ON LAKE SUPERIOR.—The report of the Boston and Pittsburgh Mining Company, for 1849, shows a most extraordinary result from the labours of that company in the copper region of Lake Superior. The amount paid up on the stock is $116,000, $18 50 on 6000 shares; the receipts from ore, $442,945 66. From this sum they have declared dividends to their shareholders, up to 1st July next, of $144,000, or $24 per share; the company have only been in operation about two years, and have been obliged to erect works, and pass through all the difficulties of a new enterprise, the mine increasing in value as the cutting proceeds. In 1849, the ore shipped from the mine was 2055 tons, its value being $244,227; the expenditure was $106,968, including some permanent improvements, leaving the net profits of the year, $137,268 The value of the silver, separated from the copper in small particles, during the year, was $2365 66. The company pays a tax to the State of Michigan of $1100 per annum. The products of this and the other mines on Lake Superior cannot, it is said, for the next year fall short of 2000 tons of ingot copper, worth $360 per ton, making an addition to the productive wealth of that state of $720,000.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price
1000	Abergwessin	9 ..	6
1024	Alfred Consols	8½..32½	30
1024	Arundell	2½..	—
1024	AshburtonUnited Mines	9½..	12
1024	Balleswidden	9 ..	14
128	Balmoon Consols	42½..	50
905	Barristown	5½..	4 5
3650	Bawden	¼..	¼ ⅜
6000	Bealbury	1 ..	1
4000	Bedford	2½ 4½	4½ 5
1280	Birch Tor & Vitifer	10½..	6¾ 7
5000	Black Craig & Craigton	— ..	5
8000	Blaenavon	50 ..	10
5000	Blisland Consols	1 ..	—
1024	Bodmin Consols	3 ..	3½
5000	Bodmin Moor Consols	1 ..	3
60	Bosorn	3½..10	12½
100	Botallack	182 ..	70 75
420	Brewer	5 ..	2½
10000	British Iron, New, regis.	12 ..	8
—	Ditto ditto, scrip	10 ..	10
2400	Bryn-Arian	2 ..	3 4½
107	Budnick Consols	52½..	12
260	Butterdon	1 ..	2 3
1000	Callington	22 ..	5 5½
1000	Camborne Consols	7 ..	3
20800	Cameron's Steam Coal	7 ..	1
256	Caradon Mines	23½..	10
256	Caradon United	24 ..	5 8
1000	Carbona	5 ..12	15
672	Caradon Wh. Hooper	5½..	4½
1000	Carn Brea	115	110 120
1000	Carthew Consols	1½..	7
113	Charlestown	220 ..	—
500	Combiawn	5½..	4½
128	Comfort	45 ..	50
256	Condurrow	20 ..	127½
3650	Cook's Kitchen	14 ..	7¾ 8½
1000	Coombe Valley Quarry	5 ..	5
1000	Copper Bottom	7½..	—
900	Court Grange	9 ..	10
212	Craddock Moor	23½..	5
128	Creeg Braws	120 ..	30
800	Cubert Mine	12½..	—
1000	Cwm Erfin	4 ..	4 4½
1000	Daren	2 .	7 7½
7100	Derwent	8½..	3
502	Devon&CourtenayCon.	11½..	2½ 2⅝
1024	Devon Great Consols	1 225	227½
1000	Dhurode	2 ..	5
182	Dolcoath	30 ..	20
3650	Drake Walls	5½..	3½
10000	Durham County Coal	45 ..	9
3000	Dyfngwm	10 ..	15
2500	East Birch Tor	3 ..	3
1024	East Buller	2 ..	5½ 6
2048	East Crowndale	7½..	1½
256	East Godolphin	10½..	13
4000	East Gunnis Lake Junc.	½..	½ ⅝
128	East Pool	15 60	5 73½
9000	East Tamar Consols	19½..	1½
258	East Tolgus	1½..	5½
128	East Tywarnhayle	1 ..	2½
94	East Wheal Crofty	125 ..	65
128	East Wheal Rose	50	450 500
—	East of Scotland Iron Co.	5 ..	1⅛
1280	Esgair Llee	2 ..	4 5
248	Exmoor Wh. Eliza	11 ..	10 12
494	Fowey Consols	40 ..	45
1024	Freidd Llwydd Mines	1½..	3½
256	Garras	41 ..	24
4000	Gen. Mining Co. for Irel.	1½..	1½
2500	Georgia Consols (Tin)	½ ..	1½
256	Gonamena	44½..	16
128	Goonvrea	4 ..	2
256	Grambler & St. Aubyn	80 ..	8
96	Great Consols	1000..	250
512	Gt. Wh. Rough Tor Con.	24½..	20
6000	Growa Slate Company	5 ..	5
1626	Gustavus Mines	3 ..	2½ 3
256	Hawkmoor	12½..	70
6000	Heignston Down Con.	2½ 2⅝	3 3½
1500	Hennock Silver-Lead	18s ..	5 5½
4500	Hennock Iron & Tin	21s ..	21s
512	Herodsfoot	16 ..15	15½
10000	Hibernian	12½..	1⅛
1000	Holmbush	22 .	13
2200	Keswick	10 ..	10
1024	Kingsett and Bedford	1½..	4 4½
787	Kirkcudbrightshire	8½ 4½	5 5½
2048	Lamberooe Wh. Maria	2 ..	4½
232	Lanarth Consols	— ..	7 8
256	Lelant Consols	47 ..	25 26
160	Levant	— ..	160
1000	Lewis	17 ..	9½ 10
1000	Llwynmalees	9 ..	10
3600	Llynvi Iron	50 ..	50
253	Lostwithiel Consols	23 ..	10
6000	Marke Valley	10 ..	⅜ ½
5000	Mendip Hills	3½..	3 3½
128	Metha	34 ..	—
20000	Mining Co. of Ireland	7 ..	5
1024	North Buller	— ..	1½ 2½
100	North Pool	45 ..	500
140	North Roskear	5½..	150
262	North Wh. Leisure	1½..	2
512	North Wheal Vor	— ..	2½
15000	Northern Coal Co.	23 .	2
128	Par Consols	55½..	650
1000	Pendarves & St. Aubyn.	4 ..	4
1248	Pengelly Tin	1 ..	1
6201	Penuant & Craigwen	2½..	2½ 3
1000	Penybank and Erglodd	4 ..	5
1024	Penzance Consols	22s 3d	4 4½ 4½
5000	Peter Tavy & Mary Tavy	½ ..	½ 1
512	Plymouth Wh. Yeoland	6½..	6
2500	Rhoswiddol&Bacheiddon	10 ..	10
10000	Rhymney Iron	50 ..	13
10000	Ditto New	7 ..	6½
2048	Rannaford Coombe Tin	1½..	2½
9000	South Tamar	1 ..	3

BRITISH MINES—*continued*.

Shares.	Company.	Paid.	Price.
128	South Caradon	5 ..	200
1100	South Dolcoath	5 ..	½ 1
256	Sth. Friendsh. Wh. Ann	30 ..	28 30
256	South Molton	7 ..	12 13
1024	South Plain Wood	1 ..	5
300	South Speed	5 ..	5
256	South Tolgus	16 145	50 60
256	South Trelawny	28½..	8
2000	South Wales Mining Co.	1 ..	1½ 2
256	South Wheal Basset	10½..	255
124	South Wh. Frances	160	400 420
256	South Wh. Josiah	2 ..	3½ 4
10000	Southern&Western, Irish	2½..	4
280	Spearne Moor	30 ..	40
128	Spearne Consols	10 ..	60
256	St. Aubyn and Grylls	2½..	5
94	St. Ives Consols	— ..	80
128	St. Michael Penkivel	5 ..	10½
999	St. Minver Consols	1 ..	6
1000	Stray Park	43 ..	26
9600	Tamar Consols	3 ..	6½ 7
10240	Tavistock Consols	½..	½ ⅝
1024	Tavy Consols	6½..	1½
6000	Tincroft	7 ..14	14½
58	Tokenbury	170 ..	10
240	Tolcarne	8 ..	20 22
3000	Tregeare	1 ..	1
256	Tregorden	3½ ..	7 8
256	Trehane	14..30	32
5000	Treleigh Consols	6 ..	2½ 3
2000	Trenance	3 ..	—
1500	Trenault Lime Quarries	2 ..	3
96	Tresavean	10 ..	95
120	Trethellan	5 .	21½
120	Treviskey and Barrier	130 240	45 50
512	Trethevy Copper	2 ..	2 2½
512	Treville (Lowanick)	¼..	5
1000	Tyllwyd	2 ..	2½
200	United Mines	50	150 160
256	Wellington Mines	25 ..	25 30
128	West Buller	10 ..	425
256	West Caradon	20 ..	95
512	West Fowey Consols	40 ..	12
1024	West Par Consols	5 ..	—
2500	West Polgooth	5 ..	5½
	Ditto Notes	1 ..	1½
512	West Providence	9 ..16½	20
200	West Seton	45 ..	150
120	West Trethellan	5 ..	20
512	West Wheal Frances	13. 8	9 9½
256	West Wh. Friendship	9 ..	8
3845	West Wheal Jewel	12 ..	2½ 3
940	West Tolgus&Trelowth	12 ..	3
256	West Wheal Treasury	7 ..	6½ 7
1024	Whiddon Mines	4½..	2
5200	Wicklow Copper	5 ..13	13½
5000	Wicklow Copper and Sulphur Mines	3 ..	3½ 3⅝
107	Wheal Adams	130 ..	150
1000	Wheal Agar	— ..	6
256	Wheal Albert	10 ..	28 29
240	Wheal Anderton	28 ..	9 10
128	Wheal Ann	— ..	50½
512	Wheal Anna Maria	7 ..	4
120	Wheal Bal	5½..	12
256	Wheal Benny	14½..	2
1024	Wheal Bray	11½..	10
232½	Wheal Calstock	9 ..	20
256	Wheal Carpenter	— ..	7½
268	Wheal Courtenay	20 .	23
182	Wheal Elizabeth	9 ..	30
256	Wheal Fortescue	15 ..	12 13
100	Wheal Friendly	70 ..	66½
388	Wheal Franco	27 ..	11 12
1000	Wheal Grose	3½ ..	5½
100	Wheal Henry	— ..	35 45
1024	Wheal Lawrence	3½..	3½
112	Wheal Margaret	79 .	190
512	Wheal Mary Ann	5 ..	39 40
5000	Wheal May	½ ..	½ ⅝
360	Wheal Oak	25½..	5
3000	Wheal Penhale	1½..	6
210	Wheal Prospect	4 ..	7
120	Wheal Reeth	41 .	75 80
198	Wheal Seton	107 ..	240 50
1056	Wheal Sarah	4½..	7
512	Wheal Sophia	5½..	6
128	Wheal Squire (St. Erth)	— ..	5
128	Wheal St. Ann	30 ..	35
1100	Wheal Troscoll	6½..	7
260	Wheal Trelawny	7½..	88 92
256	Wh. Tremaine(St. Ervan)	9½..	2½
1024	Wheal Tremayne	9½..	9½ 10
267	Wheal Tryphena	40 ..	62½
512	Wheal Venton	1½..	2
1000	Wheal Vincent	5 ..	8
128	Wheal Vlow (Perranz.)	1½..	1½
184	Wheal Vyvyan	— ..	60

FOREIGN MINES.

5000	Alten Mining Company	1½..	2½ 2⅝
15000	Asturian Mining Co.	15 .	2½
20000	Australian	4 ..	5½ 6
6000	Barossa Range	1½..	1⅝ ⅞
10000	Brazilian Imperial	23 ..	6½ 7
12000	Cobre Copper Co.	40 ..	32 33
10000	Copiapo Mining Co.	14 ..	4 4½
20000	General Mining Ass'n.	20 .	13 13½
4000	Guadalcanal	5 ..	1
2000	Ditto Preferential	2½..	2
5000	Kinzigthal Mining Ass.	2 ..	1½
5051	Mexican Company	59½..	—
20000	Mexican & SouthAmer.	8 ..	1 1⅛
5000	National Brazilian	30 5	5½ 5⅝
104000	N. Brit. Australasian	1 ..	¼
7000	Royal Santiago	10 ..	6¼ 7
11000	St. John del Rey	15 13	13⅝ 14
43174	United Mexican	Av. 28½	7 7½ 8
10,000	Worthing (S. A.)	2 ..	2½

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

CALIFORNIA.—The letters from San Francisco are to the 1st February, at which date business was very dull; all intercourse with the mines being closed, the price of provisions was rapidly declining. The weather, which had been very wet and stormy, was modifying; the waters of the Sacramento were subsiding; the health of the population was generally good. The *Alta California* of the 31st of January, contains the following statistics of the golden emigration. From the 12th of April 1849, to the 29th January, 1850, the number of passengers arrived by sea had been as follows:—

American	29,847 males		919 females
Foreign	8,620 „		502 „
Total	38,467		1421

These had arrived by sea, in 805 vessels—487 American, and 318 foreign. This number of ships is inclusive of navy vessels and steamers which arrived during the above period. The amount of tonnage arrived since the 12th of April to, the 29th of January, is 228,429 American, and 55,809 foreign. The steamer, *Panama*, left San Francisco for Panama with $693,594 in gold and freight, besides about $350,000 in the hands of passengers. The steamer, *California* also sailed on January 15, with about $500,000. The total amount of California gold dust received at the United States Mints up to Saturday, is (officially) published as follows:—

Total California dust received at the Philadelphia Mint	$9,475,000
Ditto, branch Mint, New Orleans	1,904,129
Total	$11,379,129

To which may be added (say) $750,000 worth of gold dust, still remaining in private hands. It would thus appear that the total amount of Californian gold received into this country from the first consignment in 1848, up to the present time, exceeds $12,000,000; but, enormous as it is, much below the popular estimate. The coinage at the Mint during the present quarter has been very heavy, as may have been inferred from the number of certificates paid. About $100,000 of double eagles have been coined and issued, and a still larger amount will be coined in the course of a few days.

According to the last accounts from Jamaica it appears that the Americans who have undertaken to open up the copper mines at Mount Vernon, in that island, have actually completed their preliminary arrangements. The brigantine, *Mexico*, had just arrived from New York, bringing, as her cargo, a lot of implements, cottages, and other supplies for the workmen; and another vessel, with a similar cargo, and the remaining portion of the miners, was said to be on its way.

SOUTH WALES RAILWAY.—Locomotives now traverse the section of this line lying between Newport and Cardiff.

ACCIDENTS—(*Continued*).

Merthyr.—D. Rowlands was so severely hurt by a fall of earth in the Werfa pit, that his death ensued almost instantaneously.

Durham.—A. Hunter, lamp keeper at Moorsley pit, suddenly died while at his work of disease of the heart.—W. Conn fell down the shaft at the Whitefield pit 21 fms., and was killed.—J. Dawson, a miner, in the Lodge Gill Lead Mine, while sitting eating his dinner in the pit, was buried by a fall of roof, which took one hour to extricate him. He was found quite dead.

Pontypool.—While W. Walden was employed in one of the headings of the Blaendare level, a large mass of stone, of considerable weight, suddenly become detatched from the roof and fell upon him, crushing him to death.

DEVON GREAT CONSOLIDATED COPPER MINES.

Our impression of the 2d March, giving Mr. Murchison's very elaborate and interesting account of these mines, though much larger than usual, has been in such demand, that for some time we have been out of copies, and we feel compelled to issue a reprint of the article, with wood-cuts, very soon. We shall, however, announce the day on which it shall appear.

FOR SALE, BY PRIVATE CONTRACT, at WHEAL GREY MINE, in the parish of GERMOE, the following MINING MATERIALS—VIZ:

One 53-inch STEAM PUMPING-ENGINE, 9 feet stroke by 7 inch shaft: 1 BOILER, 40 feet long, 6 feet case, 4 feet tube; 1 ditto, 38 feet long, 6 feet case, 4 feet tube; 1 ditto, 40 feet long, large end of case 6 feet, small end 5 feet, large end of tube 4 feet, small end 3 feet; 1 10-inch top door-piece; 1 6-feet 16-inch windbore; 1 9-feet 17-inch pole case; 1 4-feet 16-inch matching piece; 6 9-feet 16-inch pumps; 8 9-feet 15-inch ditto; 1 9-feet 17-inch ditto; 1 9-feet 10-inch ditto; 3 6-inch blocks. Roof of tin house; a quantity of bricks, and sundry other materials.

Application to be made to the agent, on the mine; to Capt. Thomas Richards, Marazion; or to Mr. R. Wellington, Penzance.

The materials will be promptly disposed of, to close the accounts of the mine.

Dated Wheal Grey, March 19, 1850.

LEAD ORES

Sold at Aberystwith.

Mine.	*Tons.*	*Price per Ton.*	*Purchasers.*
East Logylas	40	£12 9 0	R. Michell and Son.
ditto	40	12 9 0	Walker, Parker & Co.
ditto	40	12 9 0	Penpoll Smelting Co.
Frongoch	50	12 0 0	Walker, Parker & Co.
ditto	50	12 5 6½	Tamar Smelting Co.

Sold at Liskeard.

Wheal Mary Ann	93	£18 17 6	Combmartin Company.
ditto	53	8 11 6	T. Somers.
Wheal Trelawny	101	20 10 6	Tamar Company.
ditto	28	6 2 6	Locke and Co.
Herodsfoot	75	14 9 6	Sims, Willyams, & Co.

Sold at the Mine.

East Wheal Rose	16	£17 1 0	R. Michell and Son.
ditto	17	17 3 6	T. Somers.
ditto	84	15 8 6	Sims & Co.
ditto	78	14 14 6	R. Michell and Son.
ditto	34½	14 15 6	Sims & Co.
ditto	34½	14 15 6	T. Somers.

Sold in London.

Bryn-arian	20	£13 0 0	Sims, Willyams, & Co.
Callington	42	19 0 0	T. Somers.

Sold at Dee Bank.

East Shallee	28	£19 10 6	Walker, Parker, & Co.
ditto	18	14 1 0	ditto
ditto	1½	10 5 0	Newton, Keates, & Co.

BLACK TIN.

Mine.	*Tons.*	*Price.*	*Purchaser.*
East Crowndale	10	£42 0 0	J. H. Enthoven & Co.
ditto	3	21 0 0	Calenick Smelting Co.
Birch Tor	4½	44 10 0	Union Smelting Co.
Drake Walls	5½	44 0 0	Daubuz, Calenick Co., Enthoven, & Bissoe Co.
ditto	4	40 0 0	Bissoe Company.
Great Polgooth	7	44 7 6	Williams and Co.
ditto	7	44 7 6	J. H. Enthoven & Co.
ditto	7	44 7 6	Bissoe Company.
ditto	7	44 7 6	Daubuz.
ditto	6½	44 7 6	Calenick Smelting Co.
ditto	1½	41 0 0	ditto
ditto	1½	31 0 0	ditto
Mineral Court	*Tons* 1 12 1 27	£53 0 0	Daubuz.
ditto	0 3 1 8	13 0 0	ditto

COPPER ORES.

Sampled March 20, and Sold at White's Hotel, Pool, April 4.

Mines.	*Tons.*	*Price.*
Camborne Vean	104	£4 11 6
ditto	103	9 2 0
ditto	99	2 15 6
ditto	97	7 2 6
ditto	65	2 0 6
ditto	53	2 17 6
Wh. Francis	70	3 6 0
East Wh. Crofty	99	5 11 6
ditto	97	4 7 6
ditto	80	4 9 6
ditto	79	4 5 6
ditto	42	0 5 0
ditto	36	2 7 6
ditto	32	1 0 6
Dudnance	90	7 4 0
Longelose	14	5 2 6
Tincroft	92	1 12 0
ditto	78	3 13 0
ditto	73	4 1 6
ditto	66	5 6 6
ditto	61	2 4 0
ditto	54	4 14 6
ditto	50	4 18 6
ditto	43	3 17 6
ditto	42	3 12 6
ditto	1	17 0 0
North Pool	104	4 9 6
ditto	98	2 19 6
ditto	96	4 5 6
ditto	95	3 5 0
ditto	72	5 11 6
ditto	64	2 10 6
Wh. Seton	80	5 4 0
ditto	67	4 14 6
ditto	65	5 1 0
ditto	61	4 6 0
Wh. Seton	56	£6 12 6
ditto	49	2 7 6
ditto	46	6 10 6
ditto	40	5 15 6
Pendarves	57	4 6 0
Wh. Basset	93	4 14 6
ditto	52	2 11 0
ditto	60	7 5 0
ditto	50	5 9 0
ditto	46	19 2 0
ditto	43	9 18 0
Fowey Consols	87	5 19 0
ditto	74	6 5 0
ditto	72	3 1 6
ditto	70	6 10 0
Condurrow	67	3 12 0
ditto	56	3 10 6
ditto	55	6 13 6
ditto	45	2 2 6
ditto	35	7 5 6
ditto	25	2 8 0
Dolcoath	76	5 1 0
ditto	65	2 13 6
ditto	53	6 17 6
ditto	49	3 12 6
ditto	22	1 17 6
South Wh. Frances	105	7 15 0
ditto	75	7 16 6
ditto	40	11 5 6
East Pool	75	2 13 0
ditto	56	2 4 6
ditto	45	0 7 6
ditto	42	6 7 6
North Roskear	107	6 7 6
W. Fowey Consols.	92	5 15 6

TOTAL PRODUCE.

Camborne Vean, Wh. Francis	591	£2893	19 0	Wh. Basset	354	£2609 6 6
				Fowey Consols	303	1656 11 0
				Condurrow	283	1215 19 6
East Wh. Crofty, Dudnance, Longelose	569	2520	11 6	Dolcoath	265	1140 18 6
				South Wh. Frances	220	1851 12 6
				East Pool	218	607 19 6
Tincroft	560	2052	6 0	North Roskear	107	682 2 6
North Pool	529	2039	2 0	W. Fowey Consols	92	531 6 0
Wh. Seton, Pendarves	521	2586	15 0			

Average Standard.....£107 18 0 | Average Produce..... 7
Average Price per ton..... £4 17 0
Quantity of Ore.....4612 tons | Quantity of Fine Copper, 323 tons 0 cwts.
Amount of Money.....£22,388 9 6

LAST SALE.—Average Standard.....£107 17 0.—Average Produce..... 7⅛
Standard of corresponding sale last month, 113*l.* 6*s.*—Produce, 7¼.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	256	£1313 13 5
Vivian and Sons	1006	4619 11 2
Freeman and Co.	593	2612 11 7
Grenfell and Sons	747	3257 11 6
Crown Copper Company	67	432 3 2
Sims, Willyams, and Co.	444	2224 12 5
Williams, Foster, and Co	1460	7759 9 0
Schneider and Co.	39	168 17 3
Total tons	4612	£22,388 9 6

Copper ores for sale on Thursday next, at Andrew's Hotel, Truro.—Mines and Parcels.—Carn Brea 807—Tywarnhayle 579—Par Consols 301—Levant 246—Wellington Mines 150—Wheal Mary 121—West Wheal Treasury 112—Wheal Agar 98—West Wheal Seton 95—Wheal Tremayne 86—Alfred Consols 50—South Wheal Fortune 41—Polberro Mine 13—Wheal Prosper 10—Godolphin 9—Penberthy Crofts 6—North Godolphin 5—East Crinnis 3—Wheal Buller 246.—Total quantity of ore to be sold, 2978 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Devon Great Consols, Wheal Josiah, Wheal Maria, Wheal Fanny, and Wheal Anna Maria, 1500—West Caradon 296—Fowey Consols 290—Marke Valley 259—Wheal Friendship 208—Holmbush 126—Bedford United Mines 121—Phœnix Mines 97—Wheal Pink 47—Creeg Braws 9—Wheal Harmony 5.—Total quantity of ore to be sold, 2958 tons.

COPPER ORES

At SWANSEA, for sale April 11.—Cobre 96, ditto 81, ditto 63, ditto 53, ditto 52, ditto 37 ditto 7, ditto 91, ditto 61, ditto 54, ditto 48, ditto 35, ditto 11.—Knockmahon 110, ditto 109, ditto 84, ditto 82, ditto 63, ditto 45, ditto 43, ditto 35.—Cuba 76, ditto 75, ditto 71, ditto 67, ditto 40, ditto 20.—Waterloo Slag 45, ditto 12.—Ballymurtagh 52.—Lackamore 23.—Gartnadne 20.—Gloster Slag 3.—Total, 1764 tons.

QUARTERLY SALE OF COPPER ORES IN CORNWALL—MARCH 31.

Copper ores, 37,608 tons (21 cwts.)—Fine copper, 2974 tons 10 cwts.—Amount of money, 221,001*l.* 19*s.*—Average produce, 7¾.—Average standard, 109*l.* 1*s.*—Average price per ton, 5*l.* 17*s.* 6*d.*

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"BUBBLE MINING."—A letter under this heading appeared in our Journal of the 23d March, and which has occasioned considerable annoyance to some parties, who have chosen to fix upon themselves as being therein referred to. We have been called upon to give up the name of the writer, and to state to what particular concern it has reference—neither of which requests, we need hardly add, we have the least intention to comply with. It is ridiculous to think of legal proceedings in such a matter—if any persons choose to identify an adventure with which they may be connected as one "projected merely to drain the pockets of the unwary capitalists, to enrich themselves without the slightest intention of ever working the mines," we can have no objection to their so doing, but it is certainly too much to call upon us to substantiate their views. The letter was sent us by a gentleman of considerable experience, and we have no doubt he had good grounds for writing, as we considered we had for publishing it. Let those whom the cap fits wear it.

The *Cornwall Gazette* of this morning, in reference to an article which appeared a fortnight since in our Journal with respect to the town of Falmouth, accuses us with having, "some time ago," laboured to get up a bubble mining scheme, and takes credit to itself for having taken a very active part in exposing, and which contributed materially in defeating it. Without noticing his puerile twaddle about the *Cornwall Gazette* exposing trickery, or protection, or free trade, we call upon the writer of this *barefaced falsehood* to say when this "some time ago" happened to be, and what was the "bubble scheme" which we "laboured to get up," and which he so magnanimously defeated. Our object has ever been to support legitimate mining, and not to assist in getting up "bubble schemes."

THE TREVILLE MINE.—"Will 'Y. Z.,' who felt so much pleasure in giving so detailed an account of this mine in last week's Journal, be kind enough to inform me, through your Journal, who the respectable holders are, and whether the agent is Mr. Roskelly, of Wheal Maria Mine, Devon Great Consols?—H. H."

SUPPLY OF WATER TO THE METROPOLIS.—Our old and respected correspondent, Mr. T. Deakin, of Blaenavon, has written to us on this subject, enclosing a description of a plan by him in 1842, and published by him in the *Mechanics' Magazine* in November of that year, of which we regret our space will not allow of our giving more than a general detail. After some observations on the failure of water from the chalk, after continual pumping, he proposes a plan of which the following is an outline:—Not to interfere with the water below the London clay and chalk, but from the upper springs, that form at certain depths from the surface. To accomplish this, he proposes to carry a subterranean archway up the valley, on a level with the bed of the Thames, but not connected with it; drift ways to pass from this main out wherever strata likely to produce water are intersected, and so extended that all London might be extensively supplied. He considers the expense would not be so great as many water companies have often incurred, while it would afford a supply of pure spring-water superior to all. This plan would be much less objectionable than open canals, for many obvious reasons; would not be liable to inundation from land floods, nor be dependent on the regular supply of surface water.

"C."—The office of the Shannon Coal and Mining Company is at 80, Basinghall-street.

"J. E." (Chester).—We believe the quotation of Callington shares to be correct, as also the amount paid thereon.—On application to any broker, you can ascertain "where, and for what," they can be purchased.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I observe in the answer to your correspondent, "J. D." (near Manchester), that you can hear of no machines capable of registering weights and number of carts, &c. I should feel obliged by your making known to "J. D." that a machine for registering number was invented and put into practice by me some years since, and that several of these are now in use in this neighbourhood, and are found to answer admirably. For railroads where horse traction is used, tram-roads, cart-roads, and all places where the number of loads should be correctly ascertained, it could be fully relied on. It may be attached to a weigh-bridge, without detriment to the working of either bridge or register. I do not presume that this is the only machine contrived for such purposes, but believe it worthy of notice, from its extreme simplicity and effective working.—W. REES: *Burry Port, Carmarthenshire, March* 28.

"M. W." (Landore).—We never advise respecting any particular adventure. The information you require can be obtained of the secretary, at the offices, Old Broad-street.

"Jemand" (Yorkshire).—The papers "On the Metallurgical Treatment of Ores" are written by John Mitchell, Esq., the author of the *Manual of Assaying*, and several other standard works: they are not printed separately. See Budge's *Miner's Guide*; and Mushet's *Papers on Iron*. Apply to Mr. Weale, bookseller, High Holborn, who will forward a list, with prices, &c.

ELECTRIC TELEGRAPH MANIPULATION.—We had prepared an article of considerable length on Mr. Walker's interesting work on the above subject, but which, unfortunately, from press of matter, we are compelled to postone. It will, however, appear in our next, illustrated with several of the wood-cuts executed for the work, with which we have been favoured.

The letters of Mr. Lake on "The Rewards of Genius," and of Mr. Parsey "On Comets," shall appear in our next; also several from Dr. Murray, which we have on hand.

The letter of Mr. J. Prince, on the Bwlch Consols Mines, only reaching us this morning, cannot appear until next week.

*** It is particularly requested that all communications may be addressed—

TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, APRIL 6, 1850.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news Agents, at the Royal Exchange, and other parts of London.

In another column will be found our general quarterly returns of sales by ticketing of copper, lead, and tin, in Cornwall, Swansea, &c.; and we also here present our readers with the usual quarterly analysis of the sales of copper ore in Cornwall, to the 31st March, which is as follows:—

ACCOUNT OF THE SALES OF COPPER ORES IN CORNWALL,
IN THE QUARTER ENDING MARCH 31, 1850.

Date of Sale.	Average Stand.	Average Produce.	Average Price.	Quantity of Ore.	Computed Quantity of fine Copper.	Amount of Sales.	Value of Ore to produce 1 ton of Copper.
	£ s. d	*p. cent.*	£ s. d	21 *cwts.*	*Tons cwts.*	£ s. d	£ s. d
January 3	109 5 0	7¼	5 1 6	3785	271 3	19,217 11 6	70 17 6
„ 10	106 7 0	8¼	5 17 6	2247	182 3	13,196 6 6	72 8 11
„ 17	102 2 0	10	7 9 6	2343	234 19	17,547 19 0	74 13 9
„ 24	112 1 0	7¼	5 15 6	3573	272 4	26,685 18 6	75 19 11
„ 31	114 3 0	7¼	5 9 0	4040	291 5	22,147 5 6	76 0 10
February 7	110 6 0	8½	6 3 0	2408	194 14	14,885 1 0	76 9 0
No sale on 14	—	—	—	—	—	—	—
February 21	107 5 0	9½	7 5 6	2896	261 1	20,279 9 0	77 13 8
„ 28	116 10 0	6½	4 16 6	2845	185 0	13,726 7 0	74 3 11
March 7	113 6 0	7¼	5 10 6	3869	282 18	21,409 18 6	75 13 7
„ 14	107 15 0	9½	6 0 6	2846	232 3	17,187 1 6

higher value for ore than any of the yearly accounts subsequent to that which terminated at Midsummer, 1842; the highest yearly average price since that period being 5*l.* 11s. per ton, against 5*l.* 17s. 6d., now shown. So, again, if the last quarter's price be compared with that of the average of 17 years ending at Midsummer last (shown in the lowest line of the above table), it will be seen that it exceeds by 1s. 10d. per ton that average; which is within a few pence of the equivalent of the difference in produce; that of the last quarter being higher than the 17 years' average, by ·077 per cent. The quantity of ore raised in the last four quarters, and the computed produce in fine copper, also respectively exceed those of the 17 years to Midsummer, 1849; the ore being 147,850 tons against 147,207 tons; and the fine copper 11,684 against 11,529 tons. It follows, from these facts, that the figures under the standard—so far as it is a real standard of value, which, with fluctuating produce, it is not, and never can be—stand much higher in the fourth than in the first quarter of the year now concluded, being 109*l.* 1s. 2d. against 98*l.* 16s. 2d., an advance of 10*l.* 5s.; and the last column of the above statement—the "value of the ore to produce one ton of copper;" which *is* a standard of value—shows a sum of 74*l.* 6s. 2d. for the quarter now finished, against 64*l.* 7s. 10d. for the quarter ending at Midsummer last; which plainly means, that the smelter has paid the miner, from January to March of the present year, 9*l.* 18s. 4d. more for the ore to produce a ton of copper, than he paid in the three months from March to June, 1849.

It must not, however, be lost sight of, that the four sales of March have shown a progressive decrease in the value of ore calculated so to produce a ton of copper, from 75*l.* 13s. 7d. to 70*l.* 9s. 6d.; the last being the lowest, and 8s. lower than the price that ruled in the first sale of the year, which was 70*l.* 17s. 6d.

We may, nevertheless, in the main, repeat our congratulations, on the symptoms that are afforded, of the good old maxim of "live and let live" being a little more in practice than for two or three years past; and, whilst guarding our mining friends against too full a dependence upon the blush of prosperity now presented, which might lead them into injudicious movements, in the American "go-a-head" fashion, we see nothing to discourage the hope of a prospective fair remuneration to the copper miner, for some time to come.

We never remember to have read of more interesting and heart-stirring proceedings than took place in Tredegar, Monmouthshire, yesterday week—the anniversary of the opening of the immense rolling mill of the TREDEGAR IRON COMPANY, constructed by Mr. T. ELLIS, C.E., and said to be the most powerful in the world. A public dinner took place on that day at the Castle Hotel, for the purpose of presenting to the latter gentleman a splended tea service of plate containing an inscription speaking the united sentiments of agents and workmen, who subscribed to it, in this immense establishment. It consisted of a coffee-pot, tea-pot, milkpot, and sugar basin, all richly chased, and the coffee-pot bearing the following inscription:—

PRESENTED TO
MR. THOMAS ELLIS,
In acknowledgment of the great engineering skill displayed by him, in the construction and successful completion of
THE TREDEGAR NEW MILL,
Opened March 22d, 1849;
And as a token of Esteem by the Agents and Workmen of the Tregedar Iron-Works, 22d March, 1850.

There were present on the occasion Mr. GRIFFITH, in the chair; Mr. LEWIS, acting as deputy; SAMUEL, GEORGE, AUGUSTUS, ALFRED, and LORENZO A. HOMFRAY, Esqrs.; Mr. JOHN CULLIMORE, proprietor of the gas works; Messrs. LLOYD, HARRIS, RICE, and about 100 of the gentlemen connected with the trade of the town, the iron-works, &c. On the presentation of the plate, which was done with some observations of much taste, by Mr. RICHARD ION, Mr. ELLIS spoke as follows:—

I rise to acknowledge the proud distinction which the company have conferred upon me: Mr. Chairman and gentlemen, I do assure you that I feel this evening overwhelmed with the feelings which involuntary arise on receiving from you, my worthy friends, so flattering a testimonial of the esteem with which you regard me. I am proud to have lived to see this day; and I confess that it is the highest honour that I could desire to receive. You all know me; you have daily seen me, many of you from my childhood; and I am not ashamed to say that I have regularly filled the grades, from a working lad and man, up to the position in which good fortune, the excellent patronage of my best friend, Mr. Homfray, and some perseverance on my own part have placed me this evening. I state this for the encouragement of my young friends—those who are now beginning their career. By industry and zeal, and a constant desire to acquire knowledge, they may also rise; and it is my firm hope that many whom I see just beginning life, may go on and also attain success. Excuse my further remarks, except too add, that while thanking you most sincerely for the testimonial you have in your great generosity just bestowed upon me, it is right I should say, that the great work which this testimonial commemorates, would never have been so successfully completed, had I not with me, in every department, the most earnest assistance and unshrinking perseverance of the worthy fellows whose united efforts now make the Tredegar new rolling mill the wonder of the world.

Numerous tonsts were given, and some interesting speeches made, the utmost cordiality and good feeling prevailed, and to show the effects the iron trade has had on a small Welsh village, besides Merthyr and other mineral localities, it was stated by Mr. SAMUEL HOMFRAY, that the humble village of Tredegar, in 1801 boasting only 647 inhabitants, had now become a flourishing town with a population of 24,000. The plate was manufactured by Messrs. HUNT and ROSKELL (late STORR and MORTIMER), New Bond-street, and was valued at 80 guineas.

A manifestation of a somewhat similar character, and marked by the most cordial demonstrations of regard for the individual, took place at the Salt Hill Hotel, near Dublin, on Thursday, the 28th March. It appears that on the 12th of that month, Lieut.-Col. HARRY E. JONES, R.E., president of the Institution of Civil Engineers in Ireland, announced his intention to retire from the presidential chair, which he had held for four years; and with a view to record the great advantages which the institution had derived from his able direction, the members resolved to entertain him at an official dinner, and embody their sentiments in the form of an address. The diuner was attended by a numerous company, among whom were the principal engineers engaged in the great public works of Ireland, many of them having come from very distant localities. The address was read by Mr. RICHARD GRIFFITHS, L.L.D., and expressed the regret of the members that they must lose their president's eminent services which he had for some years rendered the institution, and, through them, to the advancement of those arts which are the ministers of civilisation and national prosperity. They could not allow that moment to pass without expressing their deep and unanimous sense of the constant and fostering care which he had long bestowed on the institution—of the dignity, discretion, and suavity with which he had presided at their meetings—of the important contributions to science, and the valuable donations for which the members had been indebted to him. Lieut. JONES was first employed in Ireland as a member of the Commission for the Shannon Improvement, where he first became acquainted with many of the most distinguished of the members; and the four years he had been among them, and this marked demonstration of the approbation of his colleagues, he declared would form an era in the past history of his public life.

The great railway project, which we remarked on in a former Journal, has occasioned our being reminded of another, by our old correspondent, Mr. S. B. ROGERS, of Nantyglo, and which we must consider as one of the most extraordinary projects of recent times—a scheme which, though challenging in all its parts the most scrupulous examination, and demanding from the most reluctant an admission of its feasibility, notwithstanding, by reason of the multitude of its difficulties, and the vastness of its range, is everywhere strongly spiced with the wild, the heroical, and the romantic. The great project contemplates no less than the laying down of a railway line from the capital of this island to Canton, in China. We shall not trace its course with the particularity, and the sort of lyrical triumph, whose echoes were heard in the columns of our great daily contemporary, a short time since, when tracing out the flight of a line from Calais to Mooltan; but we may observe, that issuing from this kingdom at Harwich, and renewing itself at some proximate point on the Dutch or Belgian shores, it would hasten forward by the directest route to the great eastern station in continental Europe—Vienna; where, gathering up the accumulated transit and traffic business of Christendom, and rolling onward to the land of the sun, it would pass out of Europe just above the Golden Horn; and stretch forward through Asia Minor, Mesopotamia, Persia, and Cashmere. Then hissing along over the broad shoulders of Hindostan, and, as a middle station, resting awhile at the City of Palaces, Calcutta, then shaking its locks in the grey of the morning, and signaling to the Burman empire and its warlike ruler within the horizon on the right, with recruited strength resuming its eastern course, sighting the wall of China, and shortly passing over it, and then, by a gentle *detour* to the south, pursuing its patient, but unslackened course, to the maritime capital of the Celestial Empire—to Canton, its terminal point, and final eastern resting place. This is nearly the strange route which has been strangely marked out for this strange line; and we think that in merely drafting such a prodigious series of railway sections on paper, the individual has furnished the public with ample proofs of his amazing railway intrepidity. We are bound to say that the thick coming difficulties, not to call them fatal impediments, incident to such a line, are met and answered with great readiness and ability. It is useless to say that the actual difficulties of the line are unknown, because it has never yet been subjected to a survey or an examination. Nothing of the kind; for those plumed surveyors who live principally in the air, and do not use theodolites, carry with them the only eyes which have scanned the inequalities of this eccentric highway.

The report of the annual meeting of the COPPER MINERS' COMPANY will be found in another column. This was solely confined to the necessary business defined by the charter—the election of a governor, deputy-governor, and court of assistants for the year ensuing, the extraordinary meeting lately held having informed the stockholders of the whole of the measures taken by the shareholders' committee, appointed at the last annual meeting, to resuscitate the company. At the last annual meeting great opposition was shown against the governing body remaining in office; on this occasion, Mr. GILBERTSON, on behalf of the committee, suggested that they should be re-elected, as, in the event of the bill before Parliament becoming a law, a new election would, under its provisions, immediately take place; at the same time he stated it would be difficult, in the present crisis of the company's affairs, to find gentlemen willing to take office; accordingly, they were re-chosen without opposition. It is not our province here to enter into the causes which led to the dissatisfaction which was so generally expressed on that occasion, and which, if fully carried out, would, probably, have led to the final dissolution of the company. Mr. GILBERTSON fortunately threw himself into the breach, and prevented that irreparable ruin which must have followed. The committee formed under his auspices on that occasion have since been indefatigable in their endeavours to reconcile conflicting interests, and, by a steady and conciliating course, endeavoured to bring the complicated affairs of the company to a tangible and easy solution. Any one acquainted with the various interests which these gentlemen have had to contend with, the difficulties which they have encountered, both from private individuals and public bodies, must give them the due meed of praise for the manner in which they have fulfilled their arduous and ungrateful task.

The bill now before the Parliament, which has been prepared by the committee, effectually prevents the recurrence of any of those *accidents* under which the company has hitherto laboured; the premises of the bill have previously been given in our columns. In presenting their report, the committee stated that the "present deplorable situation of the company could be, in a great measure, traced to the want of a proper audit." This has not only been the case with the Copper Miners' Company, but, as events have unfortunately shown, with others of great magnitude. In the bill now before Parliament, the committee have provided for this in their 13th clause; it states—"And it be enacted, that an auditor, or auditors, shall from time to time be appointed at the general meetings of the said company, in the same manner as is provided in the said charter, for the appointment of the governor, deputy-governor, and assistants of the said company, and that it shall not be necessary for the auditors to be holders of stock in the said company; and that the auditors shall have free access to the books of the said Governor and Company of Copper Miners in England at all times; and that the said Governor and Company of Copper Miners in England shall have power to pay the said auditors by an annual salary."

We understand there are still remaining some dissentients, who wish, from a desire of unenviable notoriety, to impede the committee in their onward march; but we would remind them that they should, although they have sacrificed somewhat, be grateful to those who are endeavouring to save a greater portion of that which would, ere this, have been engulphed in the sea of bankruptcy, had it not have been for the wise conciliating exertions of the committee. Ours is an age of enterprise, the experience of the last few years has painfully told us that the bodies corporate who direct our intelligence, and govern our commercial interests, have been faulty in some instances, in others culpable: committees of investigation are then appointed; these are but ungrateful tasks, and seldom satisfactorily carried out; but this we must say (being especially within our province), having attentively watched its progression from its earliest formation until the present period, that the committee of shareholders of the Copper Miners' Company has nobly fulfilled its arduous duty.

Two communications appear in our columns this day, which will, no doubt, be read with due consideration by all parties interested in the affairs of the ASTURIAN MINING COMPANY. When we cursorily remarked upon the proceedings of the meeting of the 26th instant, it escaped our observation that the opposition there was led by parties having a personal connection with the transactions, which have raised most grave suspicion as to their character. The fact, however, is prominently placed before us by our constant and watchful correspondent, the "Idler in the Asturias;" and we, therefore, deem it our duty to direct the particular attention of the shareholders to the natural bias of a party so constituted.

It is probable that, behind the scenes, there are others instigating those efforts to hunt down and annihilate an investigation—the result of which may possibly be damnatory in the extreme to certain individuals. The soul and nerve of that investigation is the solitary liquidator, who has been made the object of attack; and it may be very skilful tactics on the part of the opposition to endeavour to harrass and disgust him with his duty. But, in our opinion, it will be very unwise on the part of the proprietors to allow any evasion of the true question at issue by any such manœuvring. Until a substantive charge of misconduct, in relation to the affairs of the company, is definitively advanced against a member of the board, we ought not to permit ourselves to be diverted from the original inquiry which does not refer to this or that act of the present board, but to the responsibilities of the first projectors, to the mode in which they have discharged their duties, and the manner the funds of the company have been administered. There certainly was a *prima facie* case made out on the 25th Sept. from the books of the company, which contained a list of the participators in the spoil represented by the nominal amount of purchase money for the mines, which document we ourselves examined.

There is a reported case within our memory, we believe HITCHENS *v.* CLARKE, in which such a transaction was dealt with as fraudulent, and involving serious responsibility; and similar dealings are universally, and, according to the laws of all countries, held to be unjust and illegal where the consent of the shareholders is not expressly secured. More recently, we recollect the case of the Gaspe Fishery Company, known to more than one of the parties connected with the Asturian Company, in which shares so partitioned were disgorged. We censured at the time the manner in which the charges in question were made, although there was much to excuse rash and heated language in the desultory discussion we refer to. We understood, however, that, by common consent, these questions were to be referred to arbitration; and the notice of the late meeting led us to believe that a definite arrangement for this purpose was one of the subjects for consideration. Under these circumstances, it argues more boldness than discretion on the part of those whose administration is impeached to decline a reference to the tribunal proposed, or to anticipate the award by clamour and obstructive proceedings. We deem it very probable that there is something to clear up in the examination of accounts from the casual observation of the chairman at the late meeting—that it would be satisfactory to the present board if the books be re-audited by other hands than those which originally constructed them. Can it be that Mr. MOORE should deliberately state, in the few words which fell from him at the late meeting, that he is prepared to substantiate "*every* charge which he has from the outset made," without materials to fulfil that pledge? We regard that as incredible. Is it, then, fear of consequences that has raised a cabal, to stifle by indirect means that inquiry which, if allowed its regular course, would result in the exposure of the evil influences which have hitherto paralysed the company? From the proceedings of the adjourned meeting, we shall be enabled to draw a just conclusion herein; for, if Mr. GILLAN persist in his defiance, Mr. MOORE is bound, in justice to his own character, and in justice to his constituents, to expose, without the slightest reservation, the alleged frauds and irregularities of which he complains.

As to the letter of "A Shareholder," it tells its own tale. Any thing that we could add would be *de trop*. The report appears to be almost a condensed recapitulation of the many complaints we have published of a reckless and insensate extravagance in the conception and prosecution of this enterprise.

The provisions of the Railways Abandonment Bill, as amended by the Select Committee of the House of Lords, and which will now come to be considered by the Lower House, deserve the serious attention of all interested in the railway question. The *bonâ fides* of the Government, in introducing this measure, is undoubted, as well as their desire to protect the interests of railway shareholders; but it begins to be questionable whether certain modifications of the bill, as "amended" in its passage through the House, are not absolutely necessary to render it operative and effectual. The preamble states, that divers railways, or parts thereof, "cannot be made or carried on with advantage either to the promoters thereof, or to the public," and that it is expedient, therefore, that facilities be given for their abandonment. Accordingly, directors are empowered by the bill to apply to the Railway Commissioners for leave to abandon, and shareholders may require directors to call a meeting to authorise the application. The number of shareholders signing the requisition must not be less than five, together holding not less than one-twentieth of the share capital; and they must have paid up all the calls due. Upon receipt of the requisition, the directors are not to incur any fresh liabilities, nor make any calls, until the meeting (which must take place within 28 days) shall have determined whether such application shall be made. A circular is to be sent to the shareholders, giving notice of the meeting, and requesting their assent or dissent. These assents and dissents are to have the effect of proxies at the meeting. These proxies will not be valid, unless all calls have been paid. Scrutineers are to be appointed at the meeting, and the certificate of the chairman is to be evidence of the decision. A majority of three-fifths must consent to the application.

There are many other clauses in the bill of a highly objectionable nature; while its scope is undefined as regards the state and progress of the works of the railways to be abandoned. It seems unlimited, to apply to cases when no work has commenced; when a portion has been made; and even when the line is completed; it applies to all companies, whatever be the date of their Acts. The great objection to the working of the Act, is that it deprives all shareholders who are in arrear of having a voice, or any influence, in the question of abandonment. They cannot even join a requisition to directors to call a meeting—thus leaving directors to defeat all its provisions by making fresh calls. It is doubly hard that after so great a lapse of time, when Parliament steps forward for the relief of almost ruined shareholders, that they should be deprived of all voice in the matter. These, and many other objections to the detail and machinery of the Act, might be remedied in committee in the Commons, unless prevented by the influence of landowners and directors, and other interested parties. We understand that a movement has been set on foot among shareholders to watch the progress of the bill in the House of Commons.—Abridged from the *Globe*.

THE IRON TRADE OF AMERICA.—We noticed, in our last Number, that a great stir had arisen among the protectionists in America, particularly Pennsylvania, respecting the increased duties on British iron, in consequence of Sir H. L. Bulwer, the British ambassador at Washington, having written to the Hon. John M. Clayton, United States secretary, on the subject, requesting further duties might not be imposed; and all this is fully confirmed by the advices received on Tuesday morning last by the *Canada*, which arrived at Liverpool. It is, however, highly gratifying to find that, while the protectionist party in Congress, and those interested in the iron trade, were in a *furor* on the subject, pretending to think it an impudent interference with their internal domestic policy, his conduct was highly applauded by Mr. Clay, of Kentucky, Mr. Cass, of Michigan, and other liberal members, who all contended, and as we should contend, that a foreign Minister might properly, in fulfilling his duties towards his own Government, make suggestions in relation to any measure she deems calculated to affect the interests which he is charged with the duty of protecting and advancing. To our humble view, it appears one of the very objects of the mission of an ambassador, and more particularly at the present moment, while there are making such rapid and satisfactory advances in the intercommunication between the two countries.

IRON TRADE OF FRANCE.—From the last accounts from St. Dizier and St. Etienne, it appears the trade is becoming more brisk; prices remain firm, and several extensive contracts have been entered into with railway companies and others, at reduced prices, to prevent competition from foreign markets.

In Belgium, we understand, several new furnaces have been put in operation and great activity prevails in the iron and coal districts.

STEEL FROM SPAIN.—A rather unusual importation has recently arrived from Cadiz, at Liverpool, being a large quantity of the finest steel, assigned to eminent houses in Birmingham and Sheffield.

METAL TRADE AT STOCKHOLM.—The following notice will be of interest to those engaged in the trade:—Contrary to all expectation, the spring shipping price for iron at this port have already been fixed at $16 bco. per S lb. ordinary qualities, with the usual addition for extra dimensions and manufactured iron; to which rise, in comparison with the prices of last year, the last eight weeks' favourable intelligence from all parts have given occasion. The almost universal complaint at all the iron-works throughout the kingdom of the unexampled fall of snow this year, and the consequent impassibility of the inland lakes, rendered the requisite conveyance of fuel for the manufacture extremely difficult, besides adding considerably to its cost, and the produce this year will necessarily be less than was sanguinely expected; and when we further take into consideration that at Gottenburg, where the demand is very active, the price has already risen to $16 and $16½, we may surely conclude that here, where an active demand is also expected, the above price of $16 per S lb. will rule throughout the season. Ordinary steel is quoted at last year's prices of $8 bco. per cwt. Tar, ordinary, $8½; fine, $9 bco. per ton. Of this article larger supplies than usual are expected during the summer; and, should not a large demand intervene, a considerable fall of price may be expected. Ordinary pitch, $11½; crown pitch, $12½ bco. per ton. Avestagar copper has recently fetched $128 bco. per cwt. During the past month the stock has been exhausted; large commissions have been given, and there is no doubt of an increased price. Foreign bills have been, for some time past, more offered than asked for, although we scarcely expect any essential alteration in the course.

VALPARAISO, JAN. 12.—The mining business of Chili, owing to the discovery of new silver and copper veins, had much increased. In the district of Copiapo food for the animals engaged in transporting produce was very scarce. The portage is said to be difficult, and the railroad proposed to run from Copiapo to the coast is believed to be necessary. The increase of copper foundries along the coast are said to be thriving in spite of the restrictive laws of England. Don Carlos Lambert has the most extensive foundry, situated at Coquimbo. The British steamer, *Ecuador*, arrived at Valparaiso, on the 9th January, 10 days from Callao and the intermediate ports. She had 60 passengers, and $56,000 in specie, consigned to Esteban Miranda; 63 ozs. gold; F. Alvarez and Son, 48 ditto; Tadeo Lavin, 23 ditto; Esquerra and Gil, 22 ditto; M. E. Sarratea, 32 ditto; Soruco Brothers, 58 hard dollars; ditto, 166·48 ozs. gold dust; R. Elizalde, 300 hard dollars; T. T. Smith, 2185 silver in bars; ditto, 172 silver in lumps; Subercaseaux, 1583 silver in bars.

The *Kate Kearney* has arrived from Valparaiso, at Swansea, after a long and tedious passage of 138 days. Her cargo consists of 567 tons of copper ore, consigned to Messrs. H. Bath and Sons.

PIG-IRON FROM SCOTLAND DIRECT TO DETROIT.—Michigan has been a large consumer for Scotch pig-iron. It has usually arrived at our city by way of the Erie Canal, the freight increasing its cost over the Ohio and New York pig greatly. Just before the close of the navigation, a cargo of the Scotch pig was consigned to Mr. E. W. Hudson, commission merchant of this city, direct from Scotland to Quebec, and from thence shipped up the St. Lawrence to this place. The duties on it were paid at our custom-house. We believe this is the first direct importation from Europe of the Scotch pig to this city, and is only the beginning of a large trade in this article, which will follow. The article is pronounced of a superior quality by our furnacemen who have used it.—*Detroit Tribune.*

STATISTICS OF COPPER, LEAD, AND TIN.

The first quarter of the present year having now arrived at its close, we proceed to lay before our readers our usual statement of the sales of copper, lead, and tin in Cornwall, Swansea, and other places, and we do so with the more pleasure, as these returns show a marked improvement over those of the last quarter, as well as over the corresponding one of 1849, evincing that a steady improvement has been taking place throughout the year, and one which, from all appearances in the political and commercial horizons, is, if not likely to be progressive, at all events to maintain its present position over British mining.

The quantities of copper ores sold by public ticketing in Cornwall, during the quarter just ended, as compared with the quarter ended 31st Dec. last, and the corresponding one of March, 1849, were as follows:—

Quarter ending—	Ore.	Fine copper.	Money.	Av. price.
March 31, 1850 .. *Tons*	37,608	2974 10	£221,031 19 0	£5 17 6
Dec. 31, 1849	36,508	2810 2	193,444 11 6	5 5 7
Increase	1,100	164 8	27,587 7 6	0 11 11
March 31, 1850	37,608	2974 10	£221,031 19 0	£5 17 6
March 31, 1849	36,093	2981 11	188,507 0 6	5 4 5
Increase	1,515	Dec. 7 1	Inc. 32,524 18 6	0 13 1

The increase of the quarter just ended, in quantity of ore, fine copper, amount of money, and price, as compared with the closing quarter of the past year, may be seen at a glance; while, as compared with the quarter ended March, 1849, there is a remarkable feature of improvement; for, notwithstanding on an increase of 1515 tons of ore there was a decrease of 7 tons of fine copper, the amount of money exceeded the former by 32,524*l.* 18*s.* 6*d.*, with an increase of 13*s.* 1*d.* on the average price per ton. The sales by ticketing at Swansea were as follows:—

	Ore.	Money.	Av. price.
Quarter ending March 31, 1850 .. *Tons*	8,690	£125,751 6 0	£14 9 5
„ Dec. 31, 1849	11,212	157,694 0 6	13 11 10
Decrease	2,522	£31,942 14 6	Inc. £0 17 7
Quarter ending March 31, 1850 .. *Tons*	8,690	£125,751 6 0	£14 9 5
„ March 31, 1849	7,893	97,481 5 6	12 7 9
Increase	797	£28,270 0 6	£ 2 1 8

Showing over the previous quarter a decrease of 2522 tons of ore, and in money, 31,942*l.* 14*s.* 6*d.*, with an increase in price of 17*s.* 7*d.*, and in the latter case an increase in quantity of ore, 797 tons; money, 28,270*l.* 0*s.* 6*d.*; and price, 2*l.* 1*s.* 8*d.* per ton. The above amount of Swansea sales were made up as follows:—

	Ore.	Money.	Av. price.
Foreign *Tons*	6517	£111,297 12 0	£17 1 6
Irish	1801	13,822 9 0	7 13 6
Sundry slags	372	631 5 0	1 14 5
Total	8690	£125,751 6 0	£14 9 5

The above amount of foreign ores were made up as follows:—

	Ore.	Money.	Av. price.
Cobre *Tons*	4499	£ 69,496 4 6	£15 9 0
Australian	1106	29,336 6 0	26 10 0
Cuba	563	6,593 2 0	11 14 2
Santiago	349	5,871 19 6	16 16 6
Total	6517	£111,297 12 0	£17 1 6

And the Irish as follows:—

	Ore.	Money.	Av. price.
Berehaven *Tons*	1048	£8971 7 6	£ 8 11 0
Knockmahon	620	4062 2 6	6 11 0
Ballyzmurtagh	127	584 13 0	4 12 1
Cronebane	3	102 3 0	34 1 0
Tigrony	3	102 3 0	34 1 0
Total	1801	£13,822 9 0	£ 7 13 6

The above quantities of copper ores were purchased by the smelting companies as follows:—

Companies.	Cornwall. Tons.	£. s. d.	Swansea. Tons.	£. s. d.	Total. Tons.	£. s. d.
Mines Royal	2571	16,327 18 5	186	3,032 17 9	2757	19,360 16 2
Vivian and Sons..	8431	45,667 0 8	2466	27,202 12 6	10897	72,869 13 2
Freeman and Co.	4800	27,306 7 0	105	2,144 18 6	4905	29,450 5 6
Grenfell and Sons	4927	27,889 15 0	1554	19,888 2 9	6481	47,777 17 9
Crown Copper Co.	76	536 16 11	—	—	76	536 16 11
Sims and Co.....	4667	27,691 16 2	1302	23,488 13 6	5969	51,180 9 8
Williams and Co.	9870	63,047 8 4	1284	20,186 6 0	11154	83,233 14 4
Schnieder & Co..	2266	12,565 16 6	126	3,308 10 0	2392	15,874 6 6
B. Smith.....	—	—	177	2,896 2 3	177	2,896 2 3
B. & F. Cop. Co..	—	—	194	3,682 13 3	194	3,682 13 3
Mason and Co. ..	—	—	495	7,178 1 0	495	7,178 1 0
English Cop. Co.	—	—	831	12,742 8 6	831	12,742 8 6
	37608	221,031 19 0	8690	125,751 6 0	46298	346,783 5 0

PRODUCE OF THE PRINCIPAL COPPER MINES OF CORNWALL
For the Quarter ending March 31, 1850.

Mines.	Ticketings.	Tons.	Amount.	Av. price.
Devon Great Consols.....	3	3992	£28956 14 6	£7 6 1
United Mines	3	2970	14105 18 0	4 15 0
Carn Brea.....	3	2481	14087 8 0	5 13 6
Great Consols	4	2414	12647 7 0	5 4 9
Par Consols	6	1551	10583 2 0	6 16 5
Fowey Consols	6	1551	10438 15 0	6 14 7
North Roskear	3	1816	10190 12 0	5 12 2
West Caradon.....	3	1017	8681 14 0	8 10 8
North Pool	3	1969	8003 5 6	4 1 3
South Wheal Basset	4	903	7382 10 6	8 3 6
Treviskey and Barrier	2	943	7335 3 0	7 15 6
South Caradon	3	818	6412 9 6	7 16 9
Wheal Seton & Pendarves	3	1330	6095 7 0	4 11 8
Tywarnhaile & Nancekuke	3	1391	5711 12 0	4 2 1
Tincroft	3	1451	5356 7 0	3 13 9
South Wheal Frances	3	596	5188 14 0	9 11 3
Wheal Friendship	3	550	4825 8 6	8 15 6
West Wheal Buller	3	561	4657 2 0	8 6 0
South Wheal Tolgus	2	463	4572 9 6	9 17 6
Levant.....	3	638	3880 1 6	6 1 7
Bedford United	3	351	2956 15 0	8 8 6
Tresavean	3	867	2831 5 0	3 5 3
Camborne Vean and Wh. Francis.....	1	502	2694 1 6	5 7 4
East Wheal Crofty, Dudnance, and Longotose..	1	500	2438 16 0	4 17 6
West Wheal Treasury	3	355	2297 19 0	6 9 6
Treleigh Consols.....	3	366	1850 19 6	5 1 0
Perran St. George	2	438	1801 2 0	4 2 0
Wheal Mary.....	3	309	1598 7 0	5 3 5
Wheal Comfort	3	716	1521 3 6	2 2 2
Wheal Henry	3	255	1460 5 0	5 14 6
Trethellan	2	468	1300 1 0	2 19 10
Poldice.....	2	274	1289 9 6	4 14 6
Condurrow	1	208	1258 10 6	6 1 0
Dolcoath	1	196	1124 1 0	5 14 8
Wheal Agar.....	3	194	913 9 6	4 14 1
Phœnix Mines.....	1	51	891 4 6	17 9 5
Alfred Consols	3	122	845 18 0	7 0 0
Charlestown United	2	129	798 12 6	6 0 0
Wellington Mines	1	113	672 4 6	6 0 0
Wheal Ellen	2	101	649 17 0	6 8 8
East Pool.....	1	153	637 9 6	4 1 11
Marke Valley	1	193	616 11 0	3 3 10
South Roskear	2	175	553 5 5	3 3 2
Wheal Tremayne	3	153	506 9 0	3 6 1
West Wheal Seton	1	82	454 0 0	5 10 9
Wheal Vyvyan	2	67	416 13 6	6 4 5
West Wheal Jewel	1	70	386 15 0	5 10 7
East Wheal Rose	1	27	358 8 6	13 5 2
Penpoll	1	50	313 15 0	6 5 7
Gonamena	1	33	313 10 0	9 9 9
Holmbush	1	56	267 8 0	4 15 3
Wheal Maiden	2	44	255 10 0	5 16 0
Wheal Pink	1	49	246 4 6	5 0 1
Grambler and St. Aubyn ..	2	64	231 0 0	3 12 2
South Wheal Fortune	1	40	218 6 0	5 9 0
Wheal Jewel	3	61	166 8 6	2 14 4
Polberrow	1	15	158 5 0	10 10 8
Wheal Busy.....	1	42	143 14 6	3 8 1
Wheal Trenwith	1	32	132 0 0	4 2 6
Trelyon.....	2	19	128 15 6	6 5 8
Wheal Clifford	1	36	120 19 6	3 7 2
St. Aubyn and Grylls	1	22	113 16 0	5 3 7
Friendly Mines	1	5	110 0 0	22 0 0
Wheal Trethellan	1	26	109 16 0	3 1 1
Wheal Penhale	1	27	101 18 6	3 15 6
Creeg Brawa	1	18	84 12 0	4 14 0
Herland	1	16	72 8 0	4 11 3
Carthew Consols.....	1	27	72 4 6	2 14 2
Wheal Mary Consols.....	1	33	67 13 0	2 1 2
Copper Bottom	1	26	63 1 0	2 8 4
Spearne Moor	1	5	60 17 6	12 3 6
Polgooth	1	12	56 2 0	4 13 6
East Downs.....	1	10	51 10 0	5 3 0
Wheal Prosper	1	18	41 17 0	2 6 6
East Wheal Treasury.....	1	9	34 17 6	3 17 6
Unity Wood.....	1	6	30 9 0	5 1 6
Godolphin	1	14	25 18 0	1 17 0
Trenow Consols	1	4	24 8 0	6 2 0
East Crinnis	1	4	22 2 0	5 10 6
St. Austel Consols.....	1	5	22 0 0	4 8 0
Wheal Squire	1	5	21 0 0	4 4 0
Wheal Andrew	1	2	15 14 0	7 17 0
Pembroke	1	4	14 18 0	3 14 6
Wheal Carpenter	1	2	14 14 0	7 7 0
Sundry slags, regulus, &c.	4	95	573 0 6	6 0 0
Total..... *Tons*		37,608	£221,031 19 0	£5 17 6

LEAD.

In our lead returns for the quarter, we have also a considerable improvement to record, notwithstanding we give them only as approximate to correctness, from the returns not being of that uniform and periodical character which appertains to those of Cornwall. The quantity, as published by us weekly, has amounted to 8586½ tons, and the amount 115,628*l.* 17*s.* 3*d.*; while the sales by ticketing in the previous quarter were 8617½ tons, and money 107,913*l.* 17*s.*—showing, with a decrease of 31 tons of ore, there has been an increase in the returns of 7715*l.* The ore was raised and sold from the following mines:—

Mines.	Tons.	Amount.
East Wheal Rose	1014	£16306 5 8
Lisburne Mines	715	8220 17 6
Wheal Mary Ann	384	6428 19 0
Treiawny.....	389	6121 10 6
Maes-y-safn	490	5603 15 0
Newtonards	410	4686 15 0
Laxey	210	4573 0 0
Talacre.....	340	4534 0 0
Maesyrerwddu	315	3643 17 0
Foxdale	270	3564 1 0
Tamar	162	3353 5 0
East Tamar.....	202	3027 19 0
Goginan	180	3010 5 0
Herodsfoot	225	2997 2 6
Hendre	252	2843 17 6
Pen-yr-henblas	236	2760 7 0
Deep Level	239	2755 19 6
Pantyffrith	134	1966 11 0
Frondwnog.....	175	1927 2 6
Jamaica	170	1887 5 0
Cwmystwith	140	1587 5 0
Westminster	135	1556 10 0
Callington	83	1518 9 0
Coetin Lys	113	1408 4 8
Shallee.....	81½	1348 8 6
Trehane	83	1342 6 0
Machynlleth	109	1339 7 0
South Tamar	70	1226 15 0
Holmbush	70	1182 2 6
Belgrave	100	1170 12 6
Foxdale	90	1102 10 0
Milwr	79	1024 15 0
Llock Mines	75	998 0 0
Nanteos	87	941 13 6
Strontian	76	934 16 0
Conlig	82½	927 14 0
Cairnsmore	80	919 0 0
Bredalbane	60	655 10 0
Court Grange	36	518 10 6
Wheal Adams	50	506 0 0
Cae Conroy	33	475 4 0
South Molton Consols	60	442 10 0
Black Craig.....	43	432 3 0
Bwlchgwyn.....	30	365 5 0
Keswick	21	264 5 0
Rhoswyddol	20	241 0 0
Bog Mine.....	20	210 10 0
Tregorden	6	179 11 0
Garras	15	168 8 10
Bantry	14½	165 11 6
Port Madoc	13	136 16 6
Pantddu	5½	64 13 9
Arkansas	3	63 0 0
Total.....	8586½	£115,628 17 3

The above quantity of ores were purchased by the smelters, as follows:—

Companies.	Tons.	Amount.
Walker, Parker, and Co.	3596½	£46,978 10 9
Newton, Keates, and Co.	1467½	17,416 7 0
Sims, Willyams, and Co.	977	11,580 16 3
Tamar Smelting Company	645	10,687 16 10
Somers and Co.....	519	8,078 3 5
Mather and Co.....	407	4,795 12 0
Panther Company	296	3,882 5 6
Locke and Co.	182	3,280 3 6
Michell and Co.....	223	3,212 11 6
Eyton and Co.....	190½	2,256 9 0
Combmartin Company	100½	1,833 7 6
Penpoll Company.....	50	705 0 0
John Taylor and Son	50	554 4 0
J. T. Treffry	52½	367 10 0
Total	8586½	£115,628 17 3

TIN.

We have observed before on the difficulty which exists in obtaining correct returns of tin from the county of Cornwall, and we are no better off on this than on former occasions. The following is all we have been able to insert during the quarter, while the quantity is estimated at probably 1300 tons per month:—

Mines.	Tons cts. q. lbs.	Amount.
Great Polgooth	147 0 0 0	£6697 5 0
Lewis	26 0 0 0	1325 5 0
Drake Walls	16 5 0 0	749 2 6
East Crowndale	12 0 0 0	583 6 3
Wheal Anderton	9 15 0 0	464 11 9
Mineral Court	3 12 2 4	201 6 3
Runnaford Coombe	1 0 0 0	54 5 0
Total.....	215 12 2 4	£10,075 1 9

The above quantity of tin was purchased as follows:—

Companies.	Tons cts. q. lbs.	Amount.
Danbus and Co.....	56 11 2 6	£2627 9 11
Williams, Foster, and Co.....	53 2 2 0	2543 0 0
L. J. Enthoven and Co.	35 5 0 0	1651 18 9
Calenick Company	33 16 2 19	1548 15 7
Bissoe Company	28 16 2 19	1329 17 6
Trethellan	8 0 0 0	374 0 0
Total.....	215 12 2 4	£10,075 1 9

Important Application of Hydraulic Pressure.—In our last Number we stated that a powerful hydraulic engine had been placed at Murton Colliery, belonging to the South Hetton Company, by Messrs. Armstrong and Co., for the purpose of drawing the trains of waggons underground without the aid of a steam-engine (so dangerous in such a situation), or of horses, where a large number would not be so efficient as this new machine. The engine consists of four small cylinders and pistons, each being 3 inches in diameter, with a 12 in. stroke; the water which supplies the power is that pumped from the shaft, collected in a reservoir 606 ft. above the level of the water engine, and, of course, applying an enormous force on the pistons; the pipes conveying the water down the shaft are 4½ inches in diameter; the distance from the shaft from whence the trains are at present propelled is 880 yards, with gradients from 1 in 30 to 1 in 18; the number of tubs in each train is at present 20 or 21; the time of travelling the distance is 4½ to 6 minutes, or 6 miles per hour; the quantity of water pressing on the pistons is 1500 gallons, and the average speed is 100 strokes per minute, although 130 have been obtained without any jarring motion; the power of the engine is about 30 horses, and the reservoir and column of water collects as much as will draw 20 trains per day; but although it is contemplated to increase that number to 50, that extra number will only involve the pumping of an additional 30 gallons per minute through the 24 hours. The party inspecting the engine expressed their unqualified admiration of its performance and its adaptibility to underground use, from the entire absence of fire, and from its superseding horses. There is no doubt but that the example will be largely followed in the coal trade, and much is owing to the proprietors for their spirited exertions, and to Mr. Potter, the viewer, for his excellent arrangements in connection with the engine.

Original Correspondence.

STRENGTH OF RAILWAY AXLES.

Sir,—Knowing your readiness at all times to give publicity to useful knowledge, especially that which is likely to benefit the railway world, I take the liberty of sending you a few remarks on a paper, "On the Manufacture of Iron and the Strength of Railway Axles," read at the Institution of Civil Engineers, by Mr. G. B. Thorneycroft, of Wolverhampton—a short account of which you gave in your last week's paper. After the reading of the paper, Mr. Thorneycroft was called upon to give the necessary explanations to the different points which had been brought before the meeting; and this he did in so lucid a manner as to make them level to the meanest capacity. The samples of iron and railway axles which had been experimented on were gone over in detail—the whole appearing to excite a degree of interest, such as I have seldom witnessed; and it must have been very gratifying to Mr. Thorneycroft to receive, during his address, but especially at its close, the expressive proofs of the satisfaction of his audience, by the frequent and universal cheering.

The discussion on the paper was postponed until Tuesday evening, the 2d inst., when, after the usual formula of opening the meeting, the chairman (Mr. Cubitt) asked several times if any one had anything to say on Mr. Thorneycroft's paper, as that gentleman was present to give any explanation, or answer any question, on the subject before the meeting. There did not, however, appear to be any disposition to enter on the discussion, until the chairman called upon two or three gentlemen by name—some of whom offered a few remarks on the subject; but principally confirming the experimental facts which Mr. Thorneycroft had laid in so clear a manner before the institution. One gentleman, an agent of the Low Moor Company, remarked that, after the able manner in which Mr. Thorneycroft had laid his experiments before the institution, he begged to observe that he fully agreed with a remark in the paper—viz.: "That for making good iron, a great deal depended upon the pureness of the material from which it was made;" and that the Low Moor Company possessed those materials. Mr. Thorneycroft *had*, however, stated in his paper that the Low Moor Company did possess a very superior quality of raw material, and that he did not wish to say a word in prejudice of the Low Moor iron; but only wished it to be understood as his opinion, that the best makes of Yorkshire iron had nothing peculiar in them to give the fine granular texture so much lauded; and that the samples he had produced, some made at Low Moor, having the fine granular structure, and some made at the Shrubbery Iron-Works from Low Moor pig-iron, showing specimens of strong fibrous iron, as fine as could be produced, went at once to confirm his opinion, which opinion was further supported by samples made from Staffordshire pig—one of which showed the fine granular texture of the Low Moor iron, the other, a fibrous mass throughout; all going to prove that the process of manufacture has equal, if not more, influence on the production of certain qualities of iron than the materials from which they are made. The same gentleman observed, that some persons were to be found who did not agree with Mr. Thorneycroft about the shape of his axles. He mentioned that the locomotive superintendent on the London and North-Western Railway had dissented from Mr. Thorneycroft's views; but without giving any reason why or wherefore he held a different opinion.

It would have been well had that engineer availed himself of the opportunity afforded him, of submitting his judgment, on so important a matter, before the highest engineering tribunal of the land, where he would have paused before giving expression to opinions so totally at variance with the experiments before the institution, and the established opinion of some of the highest engineering talent of the kingdom. But

—those convinced against their will,
Are of the same opinion still.

As a civil engineer of many years practice, and having been a manufacturer of locomotive engines, I feel myself personally obliged to Mr. Thorneycroft for the invaluable information he has given; and I quite agree with the sentiment he expressed, that we engineers are not infallible, hence ought not to be above receiving information from an humble maker of iron, as Mr. Thorneycroft designates himself. A Civil Engineer.

London, April 3.

IMPROVEMENTS IN THE PUDDLING-FURNACE.

Sir,—These are eventful times of new discoveries and improvements. We have telegraphs, steam-engines, and, amongst other inventions, steam puddling; and this is to me the greatest mystery of all. I have long known that steam has been applied for cooking purposes, but am certainly at a loss to understand how it can be advantageously applied in puddling iron. I am informed, in your valuable Journal, that Sir J. I. Guest attempted to avail himself of its use by the aid of telescope tubes, for that purpose, 10 years ago, and that his scheme ended in doubling the fire. You now inform us that a Mr. Plant uses blast (hot and cold) and steam, at I know not what pressure, with which he undertakes to effect great and mysterious purposes in the manufacture of iron. I have looked very anxiously, for many weeks, in your paper, to see a letter from Mr. Plant, giving us his own version of the advantages of his patent, but as yet my anxiety has not been removed. Your correspondent, "Ouiseau du Paradise," kindly promises to inform us of the benefits to be derived by the use of the invention. I should much regret not seeing further particulars from him in your Journal; I will, therefore, beg that he favours us with them in as early a Number as possible.—Inquirer: *Birmingham, April 4.*

GASES FROM THE BLAST-FURNACE.

Sir,—I think you have great reason for congratulation on the mass of information, from at home and abrond, which you are bringing together on this important subject. The difficulties which check the use of a new system become entirely insignificant when they are once conquered. To show that a subject of value has reached this complexion is the first step to its general adoption, which, therefore, must be materially hastened by the details in your pages. That which has been already adopted by the Coalbrook Dale Company, the oldest and, I believe, now the largest firm in the kingdom, cannot fail soon to be applied universally. At the lowest estimate, it will save this country 500,000*l.* yearly on the cost of pig-iron; and, if applied to the subsequent manufacture, according to the provisions which M. Montefiore Levi promises to detail in his most valuable communications, it is a low estimate to state that four times this sum, or *two millions annually*, will be saved upon the manufacture of bar-iron.

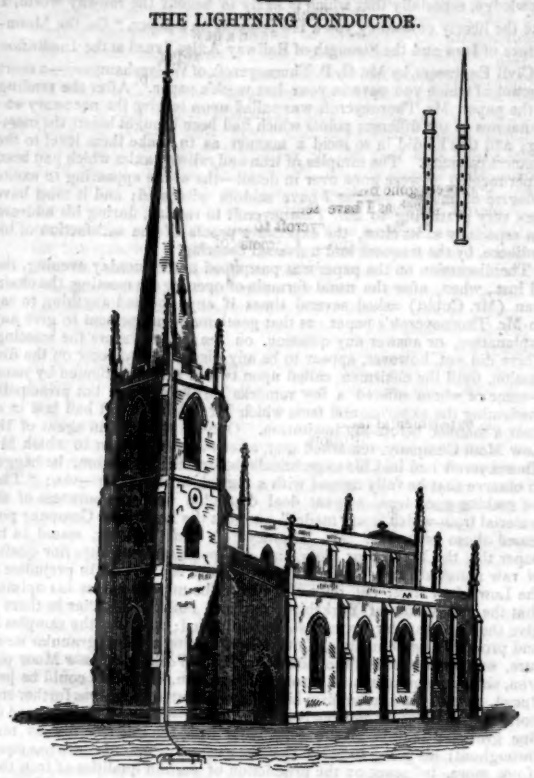
I am glad to see, by the sketch of the blast-furnace at Sirhowy, that Mr John Gibbons's improved furnace has found its way to that part of Wales. Your engraving gives me the means of elucidating some previous remarks on this improvement. It will be observed the hearth is wide, the boshes begin to open close to the tuyères, and are gradually thrown back, running high up into the body of the furnace, giving thereby a gradual expansion to the course of the blast, and carrying the heat well upwards; whilst, as a consequence of this form, and as part of the theory, the upper region of the furnace is greatly enlarged—to economise the heat employed in deoxidation, by accumulating it on a large mass of material. The old blast-furnace was the reverse of this. A narrow hearth, presenting a small melting area, and further diminished of its effect by being carried up in that narrow form—a considerable height contracting the power of the blast upon a scanty portion of the materials. The boshes from the top of this long-necked hearth then suddenly thrown back to great width at a very flat angle, dissipating the heat to as little purpose as it had previously been condensed; from the periphery of which flat shoulder the furnace contracted rapidly in a cone, diminishing the contents of the cementing region at least one-half its proper amount. This was the old blast-furnace; and the change which has wrought wonders in its efficacy, and in the economy of fuel, is due solely to the acute reasoning and observation of Mr. John Gibbons. I take a particular satisfaction in marking and acknowledging at every opportunity the origin and progress of any great improvement.—David Mushet: *April 4.*

ON THE PURIFICATION OF COAL GAS.

Sir,—My communication of last week, under the above head, appears to have a stimulating effect upon the "gas world;" indeed, so important do I consider the subject, that I am induced to offer a few further remarks. In my last, it was stated that the quantity of gas purified by the materials employed, increased regularly from 1500 to 3050 feet; I have now to inform you, that the quantity has reached 4200 cubic feet on each trial, which quantity appears at present to be its maximum effect. I have also to suggest a mode of reconverting the sulphuret into an oxide in much shorter time than by mere exposure to the atmosphere, I propose to force air through the materials, whilst in the purifier, by mechanical means—say,

by bellows, centrifugal fan, or, as I am now making arrangements for, a steam jet, *a la* Gurney, and I feel fully persuaded that the plan will be a great improvement over the present system. I shall try the experiment to-morrow.—WILLIAM PHILLIPS: *Gas-Works, Rugby, April* 4.

THE LIGHTNING CONDUCTOR.



SIR,—The wood-cut represents my lightning conductor as erected on St. Paul's Church, Huddersfield, in the year 1830, under my immediate personal superintendence and direction. The copper piping used was in lengths of 10 feet. The piping was half-an-inch diameter, and the meta half-an-inch thick. The solid pyramidal rod at top is 18 inches long. The tower and spire, from the ground to the summit of the cross, present an altitude of 170 feet. The piping cost 1s. 7d. per yard, and the entire cost did not exceed 3*l.* 10s.! The following is the description of this lightning rod, already before the public and now repeated:—It consists of *copper gas piping* in definite lengths, screwed together. This unites *economy* with the metal, next to silver, the *best* conductor of electricity. The hollow stem is terminated at top by a copper pyramid, acute at its summit; and this, with the sharp and angular edges, afford the most complete facility for the receipt of the meteor. Immediately beneath the pyramidal termination, the copper tube is *perforated*, and since it is proved that lightning does not penetrate a good conductor to an *appreciable depth*, I thus *internally* and *externally* secure a considerable *conducting surface*. The lower end of the conductor glances off at a small angle within a few inches of the surface of the ground, and terminates some feet beneath. The rod may be attached to the wall by *iron* staples, interposing slips of *leather* or *India-rubber* between. In order to preserve the copper in all its integrity, I defend it on galvanic principles—namely, by ribbons of *zinc* at specific distances, insulated by slips of leather, and united with the copper rod by copper wire. Suffice it to say, that more than FIFTY of these lightning rods have been erected, and they have triumphantly withstood the electric storms of TWENTY years!

I naturally feel sensitive and jealous of my *rights*, seeing that, with the exception of *one guinea* presented to me by a member of the "Society of Friends" at Leeds, for my instructions in the erection of my lightning rod to his premises, I have never received ONE FARTHING of remuneration from first to last, though my personal expences have been considerable.

The following will show the attempts that have been made to despoil me of the fruits of my researches, and the merits of my invention:—

TO THE EDITOR OF THE LEEDS MERCURY.

SIR,—I beg to ask, through the medium of your paper, the meaning of the following extraordinary passage in your report of the Rev. Theodore Dury's speech, at the recent *soirée* of the Leeds Mechanics' Institute:—"One member had invented an improved lightning conductor for factory chimnies, and the excellence of the invention had been tested by the fact, that wherever it had been applied, the chimnies were effectually protected, whilst those subjected to the old method were injured." I trust you will not deny me an act of justice in refusing a distinct and categorical reply. One of my lightning rods was, promptly after the invention, erected at Cliffe House, near Keighley, and I instructed a *plumber* there in the erection of another. From these they have been extended, and are still extending. Their complete efficiency has been triumphantly attested, and your own town is an ample evidence to the numbers which have been erected. It is with deep regret I have to complain of this act of injustice—*suum cuique*. J. MURRAY.

October 16, 1841.

Having communicated the substance of the above to the Rev. Theodore Dury, we have received the following letter from him in reply:—

SIR,—I should be the last person to detract from the merits of Mr. Murray, to whom I conceive, the country is greatly indebted for his numerous inventions of a humane and useful kind. Indeed, the erection of our Mechanics' Institution at Keighley was partly owing to the great interest excited by his lectures on galvanism, at which, I believe, 400 persons attended. The ingenious mechanic to whom I alluded on Wednesday, at Leeds, improved upon Mr. Murray's lightning conductor, as I am informed, by inserting the old gas piping, of which the conductor is constructed, in the necks of common glass bottles, which were purposely separated from the bottles. Wherever the iron holdfast supports the conductor, the glass prevents contact between the copper and the iron, and hinders the electricity from penetrating the wall of the lofty chimney to which it is fastened. I consider Mr. Murray's lightning conductor as good as Mr. Snow Harris's, and much cheaper; the principle is the same in both, but Mr. Murray's piping affords a larger path for the electricity than the solid plates used by Mr. Harris; the one is suitable for buildings, and, perhaps, the other for ships. THEODORE DURY.

Keighley, October 19, 1841.

SIR,—Have the goodness to accept my best thanks for the promptitude you have evinced in the insertion of my letter, together with the subjoined explanatory rejoinder, from the Rev. T. Dury. Mr. Dury's letter gives a very different version of the paragraph, and I have expressed my acknowledgement for his candour, in a letter to himself. The question is now reduced to an *assumed improvement* on my invention.

The expression "OLD gas piping," I do not understand. *Glass* rings had been OFTEN proposed to separate the *iron* conductor from the holdfast formed of the *same* metal. There is no necessity, however, for any such insulation of the *copper* piping, because it is a law in electricity that when a *good* conductor, in conjunction with an *imperfect* one is presented, the lightning will invariably prefer the former as its *exclusive* channel. *Copper* is one of the *best* conductors of electricity, and IRON amongst the *worst* in the list of metals; besides, the former is *continuous*, and the holdfast not. The lateral holdfast of iron will, therefore, not in any way impair the conducting character of the lightning rod, or distract its transit. I had proposed to insulate the conductor by strips of leather (better than *glass* rings, which might be shattered by the expansion of the rod) or *Indian rubber*, both of them *non-conductors*. Mr. Chantrell, the eminent architect, who has erected five or six of my lightning rods (attached to churches), has provided for the *expansion* of the metal, in a simple form, and which I had overlooked; but he does not, on that account, prefer any claim to my invention, or even to share in its merits.

October 23, 1841. J. MURRAY.

Hereupon I wrote Mr. Netherwood, of Cliffe Hall, whose letter of 21st October, 1841, is entirely confirmatory of my exclusive claims; and by a letter from the "ingenious mechanic," referred to by Mr. Dury, dated Oct. 29, 1841, he indignantly repudiates the gratuitous and unwarrantable use made of his name; Mr. M. Craven being of opinion Mr. Dury must have been entirely misinformed, and expressing as much surprise at the statement made as myself.

I had now supposed, in my simplicity, that the question was set at rest, and that the exclusive merits of the invention had been conceded to me by universal consent. In this, however, it appears I was mistaken. In a work by Sir James Murray, of Dublin, entitled *Electricity as a Cause of Cholera, or other Epidemics* (Dublin, 1849), in the index, p. 159, it is written—"Lightning rods *tubular*, invented by the author;" and at p. 34 of that work, "I have found hollow pipes, such as our copper gas tubes, to present several advantages, as lightning rods," &c.

I wrote Sir James Murray, requesting a reference simply to the *earliest date* which he claimed for the tubular lightning rods; and the following is an extract from his answer, dated 18th February, 1850:—

Merrion-square, Dublin, February 18, 1850.

MY DEAR SIR,—The earlier notices of my *hollow or tubular lightning conductors* were read before our Belfast Society, and a very large mansion at Bray was, and is, defended by them for many years, as you will see mentioned in the *Dublin Medical Press*, in a paper of mine, read before the Surgical Society of Ireland, in Nov., 1844. The superiority of tubular conductors is evident, in the extent of *surface within and without* the conductor; in the advantage of water being always present, by means of the *syphon bend* at bottom; as water is so much a better conductor than air, there is no fear of lateral currents or explosions when water can be always retained in the conductor, and a consequent vapour directing the current in the right direction. If it be true what Pouillet affirms, that an electric shock or current from the air sometimes meets others from the earth in the common conductors, and that awful explosions result, then I proved by many trials that such is not the case in hollow or tubular copper pipes. There is no doubt but the destruction occasioned by conductors in India arose from their being too small; but a long pipe can be always of such diameter, as to present plenty of surface on its exterior and interior, and can be made to secure a dropping of moisture at its insertion in the earth.—J. MURRAY.

On receipt of this letter, I wrote, simply quoting *verbatim* from my *Description of a New Lightning Conductor*, &c. (London, 1833), p, 39, *et sequent*. The lightning conductor was described in your own columns in a communication, dated 3d January, 1843, and years before this period in the *Annals of Electricity*, being proposed by me in my *Treatise on Atmospherical Electricity*, second edition (London, 1830), p. 106, which work had been translated into French, and published at Paris. My invention had thus become sufficiently patent to the public. I will frankly confess, therefore, that Sir James Murray's extraordinary announcement took me by surprise, mixed with unmitigated astonishment. *I cannot expect an answer*. In my communication to the *Annals of Electricity*, I had invited the opinion of electricians to my arrangement of a conducting rod, and there was not a solitary opinion arrayed against its principles.

Portland-place, Hull, March 29. ——— J. MURRAY.

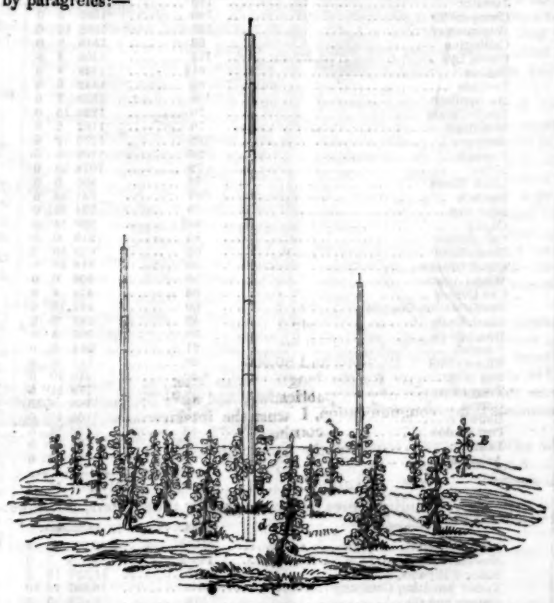
THE LIGHTNING ROD.

SIR,—In a high electrical condition of the atmosphere a luminous star has been observed to tip my lightning-conductor, and during the terrible thunderstorm which did such extensive damage at Huddersfield on the 13th July, 1831, the lightning was seen to play in graceful curves over the summit of my conductor at St. Paul's Church. I have stated my surprise that any one should venture to recommend an *iron* conductor, and my reasons are on record. I have adverted to the *fusion* of one iron conductor. In the iron conductor lately attached to the church at Wakefield, it was a mass of *rust* throughout, and during the electric storm a luminous stream has been seen to trickle down its surface. At one time there were four iron conductors attached to St. Paul's Cathedral, ½ in. thick, and 4 in. broad. These were struck by lightning on the 22d March, 1772, and one of them was completely *ignited*. The gunpowder magazine at Purfleet, though supplied with *two iron* conductors, was *struck by lightning* in 1778.

Portland-place, Hull, April 1. ——— J. MURRAY.

THE PARAGRELE.

SIR,—The wood-cut represents a vineyard defended from the hailstorm by paragrêles:—



a, vineyard, protected by paragrêles; *d*, the pole, or support, fixed in the ground; *ee*, the copper wire in the groove, and surmounting the support.

The paragrêle is merely a copper wire, inlaid, as in the figure, in an upright pole, rising above its summit, and entering the earth below; it is based on the principle that *hail* is an electrical phenomenon, or, in other words, its formation is connected with electricity.

I had witnessed the good effects of paragrêles both in the north of Italy and in Switzerland, and had much friendly conversation at Lausanne with Prof. Chevannes, of the University there, who had the merit of their introduction into that part of Switzerland. The figure is copied from the second edition of my work on *Atmospherical Electricity* (London, 1830). In the first edition of that work I had advocated the adoption of paragrêles in *hop grounds*—not only as a defence against hail, but to promote the luxuriance and health of the vine, &c.; whereupon I was rudely attacked by James Rennie, in a letter to the *Times*, Feb. 26, 1819, and to that letter the editor readily granted my *conclusive* reply. According to Rennie, the object of that notable epistle was to "prevent hop planters from wasting their money on a visionary theory!" Let the extract which accompanies this emphatically enunciate whether I was in this case a "visionary theorist." I am anxious to bring this subject before the public, in reference to some experiments I am about to institute. J. MURRAY.

Portland-place, Hull, March 25.

IMPORTANT TO HOP GROWERS.—A writer in the *Wexford Mail* states that the substitution of iron rods for hop poles has been found, on trial, a most valuable improvement in the cultivation of hops. Under this system, the rapid growth of the vine, particularly after the passing of thunder clouds, is quite surprising; the plants are perfectly free from mould, rust, the fly, &c.; the crop proves weighty and abundant, exhibits a beautiful colour, and ripens much earlier than when trained in the usual way. The rods should be pointed, in order more effectually to attract the electric fluid, to the agency of which in producing vegetation these results are attributable. A comparison with an adjoining plantation, managed in the old manner, will prove the value of the alteration; while the difference of expense, which only affects the first outlay, is quite inconsiderable, and from the durability of the material, will ultimately prove a saving.—*Globe*, Oct. 26, 1835.

PREVENTION OF THE RAVAGES OF DRY ROT, &c.

SIR,—It is assumed by Mr. Kyan that the *cause* of dry rot is to be sought for in the decomposition of the *albumen* of the sap; and the chloride of mercury, by combining with this albumen, and thus forming a substance undecomposable by the usual agencies of decay, constitutes the principle of *his* patent. Doubtless albumen may be arrested in its tendency to decay by chloride of mercury, or corrosive sublimate. It is, however, sheer assumption to say that dry rot has to do with the albumen of the sap. Sir W. Burnett, in his counter patent, employs a chloride of zinc.

The great expense of mercury, the price of which is considerably enhanced by the monopoly of Rothschild, forms a serious obstacle to Kyan's plan, and the price of the shares of the Patent Anti-Dry Rot Company shows that great success does not follow their enterprise. Knowing that Sir H. Davy had selected chloride of mercury for a similar purpose, but very properly abandoned it from a conviction that it would form a deleterious and destructive atmosphere of mercurial vapour, I ventured to oppose it on the same ground, contending, that in tropical climes, it would be as poisonous as the quicksilver mines of Idria, in Illyria, independent of its ready decomposition by the contact of iron and alkalis. As a matter of course, Mr. Kyan was quite furious, and summoned to his aid Dr. Birkbeck, who attacked my position through the medium of the *Morning Post*. It turns out, however, that I was correct. There is, unhappily for the cause of truth, and advance of general knowledge, much favouritism in relation to the authority of a name, and *party spirit* runs as high in the coteries of science as in the region of politics. Sir John Barrow, in his *Life of Lord Anson*, has entirely impugned the efficacy of Kyan's process. The Duke of Portland had done the same thing in 1838, and to the same effect are the conclusions of Earl Manvers. Dr. Moore, in like manner, in his experiments at Plymouth, had shown that "Kyanised wood," as it has been called, is no proof against the ravages of the *teredo navalis*, or shipworm, which was honey-combed like the rest.

The experiments made at Welbeck in the mushroom-house are very instructive and important, and appear to be entirely conclusive. Good Baltic timber, in these trials, lasted longer than the best "Kyanised" oak. "Kyanised" and unkyanised oak decayed equally fast. It appears, too, that wood impregnated with Sir William Burnett's solution, and that which was not so treated, decayed alike. On the other hand, it was proved that Scotch fir deals, and copperas (*i. e.* sulphate of iron), with lime-water, resisted decay longer than any of them. A similar conclusive evidence had been discovered in a mine in Wales. It may be added that I had proved, experimentally, that chloride of copper would coagulate albumen, and, therefore, that this property did not exclusively pertain to corrosive sublimate; consequently that it might be substituted.

I may add, in this place, that Dr. Boucherie proposes to impregnate the tree, either by the root or by the bole, with a solution of impure pyrolignate of iron, prior to its being cut down. These two salts of iron are identical in their operation on the sap of the tree, and mutually illustrate the action of each other: 25 years have elapsed since I communicated to the Admiralty, through Sir John Barrow, the secretary, as a prophylactic or preventive of "dry rot," the very agent—viz.: sulphate of iron, &c., which has thus been proved so successful, and to triumph over all others, even *patent* plans and projects.

The following is a sketch from the original plan of apparatus, submitted to the Admiralty:—



A, a boiler supplying steam, and supplied with a safety-valve, *a*. B, a pipe connected with the boiler, and supplied with a cock, *b*, to admit the steam, or cut off the communication with the boiler, as may be required. C, recipient steam-chamber, with a cock, *c*, which is opened to allow the expulsion of the included air along with the first portions of steam; then shut, and when the wood is saturated, it is opened again to admit the air, in order, by its pressure, to compel the solution to return to the cistern. D, a cistern supplied with a solution of sulphate of iron with its cock, *d*; the cock being opened to allow the ascent of the liquid into the chamber on this space being filled with steam, and the cocks, *b* and *c*, being shut. The steam is instantly condensed by the cold solution, which ascends by atmospheric pressure. The wood contained in the steam chamber is thus impregnated with the solution of sulphate of iron, and then transferred to a stove, where it is freed from moisture, while the sulphate of iron remains in the cellular cavities and interstitial spaces. I had recommended a similar process to the tanner and the dyer, to impregnate the pelt with tanning, and the woollen cloth with dye-stuff.

Si quid novisti rectius istis,
Candidus imperiti.

Portland-place, Hull, March 26. ——— J. MURRAY.

FERMENTATION.

SIR,—To ascertain the office of carbonic acid gas in fermentation is a question of the deepest interest, and having discovered the original memorandum made by the late Mr. Charles Spurrell, in the service of the eminent firm of Messrs. Barclay, Perkins, and Co., I send it herewith:—"The result of an experiment intimated by Mr. Murray, Jan. 22, 1817. It was to prove what effect carbonic acid gas has on mild beer in a confined state. Half a bottle of mild porter was held in the gas sufficient time to displace the atmospheric air, and then corked in the gas, and sealed immediately afterwards; a full bottle of the same porter was corked, and both deposited in a cellar; half a bottle of table-beer was served in like manner, and sample saved, as the porter. If my recollection has been true to me in this instance, I think Mr. Murray observed that the effect of the gas would produce considerable acidity. C. S. begs leave to state, that upon examining the samples 13 months afterwards, the two bottles half full of beer, corked in the gas as before-mentioned, were very mild and pleasant to drink, and no inclination to acidity. The full bottles of the same beer, when examined at the same time with the others, were found to possess a considerable degree of acidity, not pleasant to drink, and what is usually termed stale beer." I had the experiment made, in consequence of M. Nasse, of St. Petersburgh, having stated, that by occasional contact of carbonic acid gas incumbent on distilled water with atmospheric air, *acetic acid* was formed. This important experiment proves, however, that carbonic acid gas is eminently *conservative*. J. MURRAY.

Portland-place, Hull, March 26. ———

LUMINOUS APPEARANCE IN THE HEAVENS.

SIR,—In the early part of the month of February last, some particulars appeared in the metropolitan and provincial journals of a luminous appearances in the heavens; it may be of interest to your meteorological readers to publish the following extracts from American journals, received by the steam-ship, *Canada*.—G. V. ROBINSON: *Thanet-place, Temple-bar, April* 3.

SINGULAR LUMINOUS APPEARANCE.—Capt. Parkis, arrived from Porto Cabello, reports that on the 12th of Feb.,* in latitude 14° 10′, and longitude 14° 58′, at eight o'clock p.m., he observed a luminous appearance in the heavens, resembling a large ball of fire, about 10 ft. in diameter. It appeared in the west, moving eastward, slowly, and was in sight a little more than a minute. It appeared to travel about 10° high, and during its continuance the heavens were illumined with a brightness nearly equal to that of noon-day. When disappearing, it broke into a thousand fragments.—*New York Sun*.

— Quite a phenomenon appeared in the southern part of the heavens on Friday night, the 8th inst., between eight and nine o'clock; it had a luminous appearance, resembling the tail of a comet, some 3 or 4 feet long. At times it would seem to increase in brilliancy, so as to cast considerable light upon the earth, and then diminish again, and so on, until it disappeared about nine o'clock, or a little after.—*Cherokee Advocate*, March 11.

* I believe it was on the previous evening the appearances were observed in London, Manchester, &c.—G. V. R.

LIGHTNING CONDUCTORS.

SIR,—I have not the least intention of arrogating to myself the credit of first suggesting the application of conductors to the protection of telegraph wires from lightning, for others had proposed it before me. There does not appear to be the least necessity for rejecting iron as a material for lightning conductors. It can neither be ignited nor fused by electricity, when a sufficient surface is presented for the passage of that fluid; but, being an inferior conductor to copper, a larger surface is necessary than when the latter metal is employed. The conductor in the *New York* ship was melted, because it was of insufficient dimensions; 3-10ths of an inch is no size for the purpose, especially of iron wire. It is quite erroneous to suppose that any dimensions are sufficient for a lightning conductor: even copper melts, if of too small a size, as the melted bell wires of houses, struck by lightning, sufficiently prove.* The question I started in my letter was purely one of economy. Copper is certainly the best conductor; but, with "a large surface, iron will answer the purpose, as is proved by the well-known fact, that a large block of wood will disperse an electric charge quicker than a fine copper wire, although the wood, size for size, is vastly inferior in conducting power than any metal." In this experiment of Professor Faraday's the wood is the best conductor; but he would scarcely be called an *unsound electrician* for saying so. JOHN J. LAKE.

Ordnance Office, Portsmouth, April 2.

* See the cause of this more fully explained (*Mining Journal*, June 23, 1849), in my paper "On Pyrogen."

ON COMETS.

SIR,—I beg the favour of a brief space in your columns to notice the letter of your correspondent, "G. M.," on the above subject. He seems quite amazed at my ignorance in referring to the now fashionable theory that comets are *solid* bodies, surrounded by a dense vapour, and probably in a state of combustion. The following are the *dicta* of two of the first astronomers of the day on this matter:—M. Arago: "I think we should conclude—1. That there are comets without nuclei.—2. Comets of which the nucleus is, perhaps, transparent.—3. Comets more brilliant than planets, of which the nuclei are *probably* solid and opaque." Sir J. Herschel: "Whenever powerful telescopes have been turned on these bodies, they have not failed to dispel the illusion which attributes solidity to that more condensed part of the head, which appears to the naked eye as a nucleus, though it is true that in some a very minute stellar point has been seen, *indicating the existence of a solid body*." Prof. Airy only goes so far as to

say that the nuclei "*appear*" to be vapour. The difficulty in recognising the solid nucleus of a comet does not appear very extraordinary, when we consider the density of the cometic vapour, or atmosphere, the strong reflection of the sun's rays from this vapour, and the peculiar state of the comet in general. The comet of 1823, with its two tails, is apparently opposed to my suggestion in the *Mining Journal* of the 23d March; but it is quite clear that the "perverse turning of the tails of comets from the sun" is owing to some solar influence, whether in the way I pointed out or another. Thus, everything concerning the nature of comets, except the stellar points mentioned by Sir John Herschel, is still entirely hypothetical, notwithstanding the assumption of superior knowledge by "G. M."

Ordnance Office, Portsmouth, April 2. JOHN J. LAKE.

VOLTAIC COPPER ASSAY.

SIR,—I waited another Number before acknowledging Capt. Prince's communication, for the chance of its eliciting the experiences or observations of other experimenters. His results do not seem to have reached either the precision or the constancy required for my purpose; not even equal that of the ordinary wet assay. Nor am I disposed to attribute the default to want of skill in the manipulation, as he suggests, but rather to imperfections in the instrument, which does not appear to be constructed with the precautions for close accuracy. If my own experiments are more successful, I hope to give you the details of apparatus and mode of operation. I use the qualifications "seem" and "appear," however, because the error may be in the wet assay itself; by the precipitated copper having absorbed a little oxygen in washing or drying. Of this we may better judge, if Captain Prince will say what precautions were taken to prevent it; as whether the washing water was boiled to expel the air, and used before quite cold, being kept meanwhile in a corked bottle; whether the zinc was kept in during the washing; and what cautions were used in the management and drying of the filter?

May I also suggest (though not applicable here to the comparison between the two cases), that zinc, whilst *readier* than iron, is less trustworthy, as it throws down other metals with the copper.

I shall be glad to see his improvement of Pelouze's method, which, so far, is not depended on within ½ per cent. up or down; and that again subject to the purity of the copper used to graduate the test liquor.

Plymouth, April 2. J. PRIDEAUX.

BANKART'S PATENT FOR IMPROVEMENTS IN SMELTING COPPER ORES.

SIR,—From time to time there appears in your valuable and interesting paper, descriptions of certain improvements in the various branches of science, industry, and art. Amongst numerous others, a patent, the name of which heads this letter, has received, in all its ramifications, a very full and lucid detail, through the medium of your Journal. It is seldom, however, that the practical results of inventions, teeming with such vital interest to the mining community, are suffered to remain in the profound obscurity which, at present, envelopes "Bankart's patent." It is, therefore, that I seek the aid of the *Mining Journal*, and ask, "What results have attended the granting of this patent? What known and ascertained advantages does the adoption of the process offer to the miner? Is the invention as applicable and as useful in smelting large quantities of copper ore, as it is in reducing the small quantities used in experimentalising? In short, what degrees of beneficial practical results have attended an invention so much lauded for its scientific completeness?" These, as interrogations intimately affecting the interest of the mining enterprise, will, perhaps, through the *Mining Journal*, receive a satisfactory solution.

Dalston, April 2. J. E.

COAL AND IRON MINES IN THE COUNTY MAYO.

INCUMBERED ESTATES COMMISSION (IRELAND).

SIR,—Some months since I communicated, through your Journal, a precursory notice of the expectations then entertained in regard to the above subject, and whose realisation would invite capital, skill, industry, and perseverance, to the resources of a country that seems hitherto heaven-deserted. The promise is on the eve of accomplishment, but, previous to reporting progress, it may be interesting to show the early mineralogical character of the ground in question; the successful iron-works that have in remote time been carried on there; the tradition that existed two centuries since of their importance; the sad discouragement under which they have been permitted to remain, with but a few feet of surface concealing them from observation; the providential manner in which, at the most critical moment for the redemption of the inheritor, and the relief of an impoverished population, they were developed, by the patient assiduity of one man, and the facility that now offers for making the discovery auxiliary to the remunerative employment of native industry.

Dr. Boate, in his *Natural History of Ireland*, makes mention of many iron-works as in operation through this country. In the time of King Charles the First, and he especially speaks of valuable iron-works in the county Mayo, which, he says, were only abandoned when the timber, the only material then considered available for smelting purposes, was exhausted. Sir Robert Kane, too, having recently alluded, as he is ever anxious to do, to the undeveloped resources of this country, took occasion to suggest the existence of iron-works at a very remote period in the townland of Kilkelly, adjoining the district which is the subject of this letter; and, in evidence of this position, he exhibited some superior specimens of pig-iron and slags, as found at a place called Hawksford, in that townland. Such being the state of that vicinity, where a branch of the Phillips' family had been long settled, King Charles the Second, in 1684, granted to the heir of that house, "of his especial grace, certain knowledge and mere motion," by the style of "Captain Walter Phillips, of Clonmore" (who was previously, in the Act of Settlement, especially recognised as one of those "who continued with us, or served faithfully under our ensyns beyond the seas") "all that and those the towns and lands of Clonmore, Carrowtobber, Sheancraig, Carrowcashel, and Ruskagh, in the barony of Cotello, and county of Mayo, with all the houses, mills, woods, moors, bogs, fishings, *mines*, &c., to have and to hold the same, to him, the said Walter, his heirs and assigns for ever." From that period, to this day, this estate has descended by an unbroken succession of heirs male to the present inheritor, Thomas Phillips; during all which time, with epidemic apathy, the mines were unworked—unappreciated. The awful visitation, however, which afflicted this country during the last four years, and was felt with bitterest virulence in Mayo, hurried this estate into Chancery, and has ultimately pushed it for sale into the Court of the Incumbered Estates Commission, where an absolute order for its sale has been pronounced.

In the March of the last year, as I stated in my former letter to your Journal, the indications of iron and coal having been recognised on the said lands, an engineer was selected by the mortgagee, who was chief creditor; and he was sent down to examine "whether coal, or any other valuable mineral, existed on said estates, and, if so, to report upon the nature and probable extent of such mines, and the facilities for working the same." Being accompanied by the inheritor to the place, where a pit had been sunk a few feet below the surface, he reported—"I am of opinion that there is a most extensive and valuable coal formation existing under a very great portion of this estate. My examination has also convinced me that there exists under the said lands, to a large extent, all the minerals and materials necessary for the making and manufacturing of iron. The coal is of very good quality; I have dug out of the ground, with my own hands, samples, which I have deposited in Dublin. There is also limestone on the spot in abundance, and from the great quantity of oxide of iron existing and mixing with every rivulet of the locality, it is evident that ironstone, similar in quality and produce to the ironstone of the anthracite coal districts of South Wales, will be discovered here, the iron of which is so highly valued for its toughness and malleability. All these materials for making iron are lying convenient to each other, and, consequently, will not require any expensive transit, while the wages of labour is much lower here." The engineer who made this report had 30 years' experience in the mining districts of Wales and Ireland; but the inheritor not having funds to prosecute the inquiry, nothing was done thereupon, until an individual, originally a native of Mayo, but who had been for many years a resident and confidential worker of mines in the county of Durham, having seen specimens of the coal and ironstone, and at once conceiving the most favourable opinion of their qualities, volunteered to leave his situation in England to come over here at his own sole expense, and develope mines that would, he knew, ultimately remunerate his outlay, and, yet more, be the mainspring of industrial comfort to his suffering countrymen. Not, however, until the 18th Feb. last was he able to release himself from his English engagement, and to commence the work. Of his operations since then, as reported from the pit's mouth, I beg to give you the result in the form of a diary, as the most intelligible diagnosis of the discovery, and of the sincerity, skill, and perseverance of the labourer.

"*Feb.* 20.—He has just commenced to work at the pit, having a frame put in to prevent the earth falling down upon him, and will be picking in the course of the day."

"*Feb.* 24.—This is the first day that he has been really able to get to work. He has got some lumps of coal, of a better description than any procured before; he has no doubt of the results. No appearance of water yet; he has turned the stream, and the pit continues to be nearly dry."

"*Feb.* 26.—He has got on well during this day, and I am happy to say no appearance of water as yet. He is about 20 ft. from the surface, and has come to a solid rock, which he likes, and hopes he is not far from the coal. There was a strong smell of sulphur down in the pit. He told me last night that, even if water came on him, of which he says there is no appearance as yet, he would not give the matter up, but that he would get a sufficient number of bore-rods made, and would bring a man over from England at his own expense to assist him to bore. He, however, has the strongest hopes that there will be no necessity for this, and that he will fall in with the coal-field in a few days."

"*March* 3.—The rock is so dreadfully hard that he makes but little progress, but he has no doubt now whatever of finding the coal; he told me last night that he has now two leaders of coal—one of 18 in., and the other of 6 in. The coal, he says, is of superior quality. The rock he is working on he calls 'blue whin'—no water of any consequence as yet, and he has no fear of it either."

"*March* 11.—He says he never met with a better sample of anthracite coal in England than he has here."

"*March* 12.—Yesterday was his best day as yet; he got up several loads of slack, which burns well; and also a good deal of what he calls 'leader coal,' of which I send you a sample." [Which has been since shown and approved of by Mr. Richard Griffith, of the Board of Works, and at the Irish Economic Museum.]

"*March* 24.—He is in great cheer; he has no doubt whatever but that the coal is here in great abundance; he says he is certain of two fields, and thinks there may be three. The leaders, he says, incline downwards 2 ft. 6 in. in the yard. He hopes soon to come to a change of stone, as there is now some white spar mixed with the stone. He only wishes some regular engineer would come to view the pit—the more clever, the better he would be satisfied; and says, if any engineer would differ from him, he would be willing to get over an engineer from England at his own risk, if it was found that he was in the wrong. This statement he was willing to verify on oath, or in any way required. He says nothing can be more beautiful than the appearance; that he never saw anything like it in England; and that were it not for the hardness of the stone, he would have been at the coal-field before this. It may extend, he says, for miles."

"*March* 27.—He says now he is sure there are five fields of coal here; he thinks he will come to a change of stone to-day, and that the appearance of the pit is splendid."

"*March* 29.—I shall forward to you a small hamper of the coal as you desire, and enclose a small bit of what was taken up last night. I send you a list of the town-lands under which he says there is coal [20 extensive denominations of the property]. He also says that there is the greatest abundance of the most valuable ironstone; he reports that there are five coal-fields to the north, and four to the south."

Such are the notes forwarded to me by the inheritor, who is naturally anxious to realise his ample securities for the exoneration of his lands.

Immediately after receiving the letter of the 24th of March, I waited on Mr. Richard Griffith, who approved of the sample I then had, and encouraged the project, and I wrote, on his recommendation, to Sir Robert Kane a narrative of the work. I this day received his reply from Cork, where he presides over the Queen's College. "I rejoice," he says, "with you, that the prospects of your relative's mine appear so good in the opinion of an experienced coal miner like Mr. ———; and although I can offer no opinion myself, as nothing but exact personal inspection would justify an opinion, I recommend you to state the case to the commissioners, and I think they will, before proceeding to sale, appoint a proper person to examine and report on what may so *enormously* alter the value of the property." Sir Robert, in this remark, which I have taken the liberty of thus publishing, alludes to the estimates which I gave him as made by the two who inspected this district, and which were respectively, according to a calculation of probabilities, 200,000*l.* and 80,000*l.*

I hope I need not apologise for the length of this letter; it is wholly and solely on the main object of your publication; and while the peculiar urgency stimulated my communication, I trust the intelligence will be hailed by your readers as the promise of coming relief for a province where poverty has so long existed; and that the promptest means will be embraced to develope and make available the industrial resources of a district which comprises upwards of 6000 acres, under all of which the coal-field extends. I shall be happy to satisfy any inquiries that may be sought from me on this subject.—JOHN D'ALTON: *Summer Hill, Dublin, March* 30.

IMPROVED MANUFACTURE OF PEAT CHARCOAL.

SIR,—In your publication of the 23d March, I observe an article, stating—"Although numerous have been the attempts to produce charcoal from peat fit for all, even the most delicate, metallurgical purposes, and although several patents have been taken out within the last four years for particular methods of manipulation, *success has not yet appeared to have crowned our efforts in this country.*" It is added—"That Mr. Vignoles has discovered and patented a method for carbonising peat, by means of high-pressure steam passed through *red-hot tubes, until it acquires a temperature of 450° to 460° Fahr.*"

It is not my object to detract, in the least degree, from Mr. Vignole's invention, nor to point out the several causes which, I believe, will be found to act against such a mode of manipulation; but no matter how great the value of peat charcoal for steam and manufacturing purposes, unless it be produced *in these countries*, at a price considerably under wood charcoal, it can never be made a substitute for coal coke.

Hitherto all attempts have failed to do this, simply because the carbonisation of peat in close, or nearly close, vessels (which is an essential to proper production) has been effected by caloric obtained from other matter than itself. In many instances the peat used to produce carbonisation being equal in volume to the peat carbonised, hence the failure in *economical* production.

Now, permit me to say that by my process, already fully described in your columns, the combustion of the peat itself effects the carbonisation, in furnaces which are as nearly as possible "close vessels;" and pray observe, this is not *a theory*. Those furnaces have been *at work* for the last 12 months at Fort Chrystal, Dublin, and also at Derrymullen, on the bog of Allen, for the Irish Amelioration Society; and the *charcoal* produced has been from 25 to 35 per cent. upon the *peat* used, proving the fact, that *ashes* are not formed in the operation; for the most accurate carbonisation of peat, effected in retorts with exterior heat, where ash is not formed, will scarcely average more. In order that there may be no question as to the purity of the charcoal from these furnaces, I send you herewith Prof. Phillips's analysis, recently obtained by the court of directors of the Irish Amelioration Society, which shows that it contains nearly 80 per cent. of carbon, and 88·42 of combustible matter; and the following letter from Mr. Gandois, a manufacturer in London, who has been some time using the description of charcoal prepared by the society, for stoves, &c., will show you, I think, that "*success has crowned our efforts in this country,*" notwithstanding the fears expressed in the article to which I have alluded.

It is right to observe that the charcoal used by Mr. Gandois is only a *second-class* quality, and not produced from peat, *compressed*, according to my patent, which operation will, I believe, be found as great an essential to the production of charcoal for metallurgical purposes as economical carbonisation.

I have no doubt Mr. Gandois will satisfy any one that calls upon him that he is using a much better article than wood charcoal; and that, in place of paying about 9*l.* a ton for the latter, he pays but 3*l.* 10*s.*

JASPER W. ROGERS.

St. James's-street, London, and Nottingham-street, Dublin.

Professor Phillips's analysis of peat charcoal for deodorising purposes is as follows—100 parts:—Carbon, 79·24; hydrogen, 2·20; nitrogen, 0·54; oxygen, 6·44 = 88·42 combustible matter.——Sand and clay, 2·48; oxide of iron, 1·66; phosphoric acid, 0·34; silicate of potash, 0·98; chloride of sodium, 2·53; carbonate of lime, 1·85; sulphate of lime, 1·44; loss, 0·30 = 11·58 incombustible matter = 100·00. [This analysis has been recently made, from peat charcoal manufactured under Mr. Rogers's patent, for the Irish Amelioration Society."]

SIR,—As you request my opinion on the quality of the peat charcoal supplied to me as a fuel by the Irish Amelioration Society, I beg to state that in my workshops I am obliged to use portable stoves for the purpose of drying my goods, and must have a clear fire, throwing off great heat, without smoke. I have used every fuel I could get—coals, wood, prepared wood, charcoal so called, coke, &c., but always with my doors open, to allow the escape of these vapours, which I believe were the cause of my people being taken ill continually, and obliged to quit work suddenly. I have great pleasure in expressing the satisfaction I feel in finding the peat charcoal cinders you have had sent me answering so perfectly, not only in one, but in every respect; the odour from it being agreeable, no smoke, the flame bright and clear, double the heat thrown from it than from other fuels I have used, and burning a longer time than wood charcoal; in fact, it is all I desire. I am very glad to say that we now work with nearly closed doors, thus keeping up a continuous heat, which is necessary for us; my people are in good health, and work in comfort. I consider this discovery of great importance, and the fuel a great boon too manufacturers.—A. J. GANDOIS: *London Wall, City, Feb.* 18.

WELSH RAILS.

SIR,—Mr. Thorneycroft, and a writer signing himself "A Staffordshire Ironmaster," have been pleased of late, in your widely-circulated paper, very liberally to assail the merits of Welsh rails, and the former gentleman to enlarge upon the superior merits of his own manufacture. Perhaps the following testimony, given by Sir John Macneill during *an incidental discussion* at the meeting of the Great Southern and Western Company last week, may be deemed as impartial, as the advertiser of his own merits, or that of his coadjutor, in traducing his brother manufacturers. The rails here alluded to are of Welsh manufacture:—"Sir John Macneil observed, that there was no question which could be spoken to more satisfactorily than that of the rails used on other lines. He was prepared to state, from his own knowledge of railways, and the working of different lines, that their rails would last four times as long as any others that had been hitherto employed in Ireland. The Great Western Railway had been lain down three or four times at a very considerable expense; but the rails used by the Great Southern and Western Railway were from the first 92 lb. rails, and he would say they were at present quite as good as the day they were laid down three years ago. They had, on the Dublin and Drogheda, laid down 75 lb. rails in 1844, on which trains had been running 14 times daily since, and the rails were just as serviceable as ever."

March 29. A WELSH IRONMASTER.

ON GAS.

SIR,—In the *First Report on the Coals suited to the Steam Navy*, by Sir H. De la Beche and Dr. Playfair, we find it stated, that "by a construction of the most simple kind, the coke ovens now in use might be made to economise much of the nitrogen which invariably escapes in the form of ammonia; and that, as 100 tons in coking is capable of producing, on an average, about 6 tons of sulphate, its neglect is highly reprehensible." In the present system of coking, the temperature of the ovens is maintained, and perpetuated by the combustion of the tar and gases, escaping at the surface of the coal—provision being made for the due admission of atmospheric air for that purpose. As the space between the roof of the oven and the coal is generally considerable, the flow of gases from the coal slow, and the quantity of air admitted being small, it follows that the whole volatile products of the coal are exposed for a long time to the action of the heated roof, and part of the sides of the oven, so that we have a very different arrangement here to the ordinary mode of distilling coal—viz.: by closed iron or brick retorts. From these considerations, I had always suspected the partial decomposition of the ammonia by the coke ovens in present use, before its escape to the flues. Several experiments, carefully made, not only confirm this view, but actually prove the total destruction of that substance, after passing the flues—not the slightest trace being indicated by the usual methods. I hope some of your more able correspondents will direct attention to this important subject, and further elucidate the above views by direct experiment.

Ebbw Vale Iron-Works, April 3. GEORGE PARRY.

HISTORY AND MANUFACTURE OF GUNPOWDER.—No. I.

BY JOHN JOSEPH LAKE, OF THE ORDNANCE DEPARTMENT.

The date of the invention of this terrible and useful composition is unknown. It is said to have been used in China as early as the year A.D. 85; but notices of compositions of a kindred nature, if not of the particular kind we now employ, are found in authors of more ancient date. The earliest mention of gunpowder occurs in a code of Gentoo laws, where it is said to be applied to fire-arms, and which laws are thought to have been contemporary with Moses. The following is Halhed's version of the passage referred to:—"The magistrate shall not make war with any deceitful machine, or with poisoned weapons, or with cannon and guns, or any kind of fire-arms." On which Halhed makes the following observations:—"It will no doubt strike the reader with wonder to find a prohibition of fire-arms in records of such unfathomable antiquity, and will probably hence renew the suspicion, which has long been deemed absurd, that Alexander the Great did absolutely meet with some weapons of this kind in India, as a passage in Quintus Curtius seems to ascertain. Gunpowder has been known in China, as well as in Hindostan, far beyond all periods of investigation. The word fire-arms is literally Sanscrit, *agneeaster* (*agnyastra*), a weapon of fire; they describe the first species of it to have been a kind of dart, or arrow, tipped with fire, and discharged upon the enemy from a bamboo. Among several extraordinary properties of this weapon, one was that, after it had taken its flight, it divided into several separate streams of flame—each of which took effect, and which, when once kindled, could not be extinguished; but this kind of *agneeaster* is now lost. Cannon in the Sanscrit idiom is called *shĕt-aghnee* (*sataghni*), or the weapon that kills a hundred men at once, from *shĕtĕ* (*sata*), a hundred, and *ghlĕnĕh* (*hana*), to kill; and the Pooran Shasters, or histories, ascribe the invention of these destructive engines to Bĕĕshŏŏkermā (Viswakerma), the artist who is related to have forged all the weapons for the war which was maintained in the Suttee Jogue between Dewta and Ossoor (Devata and Asura), or the good and evil spirits, for the space of 100 years."—(Halhed's *Translation of the Gentoo Laws*, introduction, p. lii.; *Asiatic Annual Register*, 1798-9, p. 17.)

The Rev. Mr. Dutens, in his *Inquiry into the Origin of Discoveries attributed to the Moderns*, gives the following remarkable quotation from the life of Apollonius Tyanæus, by Philostratus:—"These truly wise men (the Oxydracæ) dwell between the rivers Hypharis and Ganges. Their country Alexander never entered, deterred not by fear of the inhabitants, but, as I suppose, by religious motives; for had he passed the Hypharis, he might, doubtless, have made himself master of all the country round them; but their cities he never could have taken, though he had led a thousand as brave as Achilles, or three thousand such as Ajax, to the assault; for they come not to the field to fight those who attack them; but these holy men, beloved by the gods, overthrew their enemies with tempests and thunderbolts shot from their walls. It is said that the Egyptian Hercules and Bacchus, when they overran India, invaded this people also, and, having prepared warlike engines, attempted to conquer them; they, in the meantime, made no show of resistance, appearing perfectly quiet and secure; but, upon the enemy's near approach, they were repulsed with storms of lightning and thunderbolts hurled upon them from above."

The character of Philostratus for truth is certainly not the best, neither is the authenticity of the Gentoo code to be altogether depended upon; but one thing is to be drawn from these works—namely: that an explosive compound, resembling, if not the same as, modern gunpowder, is of very high antiquity; and it has even been thought that it was employed in some way in the lamps, firebrands, or torches, used by Gideon against the Midianites. (Judges vii., 16.) It is said to have been used by the Arabs at the siege of Mecca, in the year 690; and it is considered that they derived their knowledge of it from India. Roger Bacon, amongst the moderns, was certainly acquainted with its composition. When speaking of its effects, he says:—"Some things disturb the ear so much that, if they were made to happen suddenly by night and with sufficient skill, no city or army could bear them. No noise of thunder could compare with them. Some things strike terror on the sight, so that the flashes of the clouds are, beyond comparison, less disturbing—works similar to which Gideon is thought to have performed in the camp of the Midianites. And an instance we take from a childish amusement, which exists in many parts of the world—to wit, that, with an instrument as large as the human thumb, by the violence of the salt called saltpetre, so horrible a noise is made by the rupture of so slight a thing as a bit of parchment (a cracker appears to be meant), that it is thought to exceed loud thunder, and the flash is stronger than the brightest lightning."—(*Opus Major*, p. 474.) It is not known where he acquired his knowledge; but it is thought he got it from Marcus Græcus, or, which is much more probable, that he picked it up amongst the enlightened and polished Saracens of Spain, during his travels in that country; for there is in the collection at the Escurial a *Treatise on Gunpowder*, written in the year 1249. The learned friar, according to the custom of his age, assumed a great mystery in the matter of its composition. In his treatise, *De Secretis Operibus Artis et Naturæ et de Nullitate Magiæ*, he says, "*Sed tamen sahs petræ, lura nope cum umbre et sulphuris, et sic facies tonitrum et coruscationem, si scias artificium.*" Some ingenious student has discovered that the barbarous words *lura nope cum umbre* are formed by transposing the letters of the words *carbonum pulvere*—that is, pulverised carbon, or charcoal, which, with saltpetre and sulphur, completes the necessary ingredients, and quite sets aside the claim of Cri-

ginal invention made on behalf of Bartholdus Schwartz, 1336. The invention has been ascribed to Constantine Anelzen, a monk, by Polydore Virgil and others; but it seems to be far more feasible that the knowledge of its manufacture was introduced to Europe by the Saracens through the medium of the Greeks of Constantinople, of the Crusaders, or of the Saracens of Spain. Roger Bacon does not even claim the invention, as his description of the cracker—"the childish amusement which *exists in many parts of the world*"—sufficiently proves. Should China be thrown open to this country, much information may probably be obtained concerning the antiquity of gunpowder.—*Portsmouth, March* 27.

UNSTON IRON WORKS, NEAR SHEFFIELD.—Messrs. RANGELEY, WRIGHT, and Co. invite the attention of IRON MANUFACTURERS, IRON FOUNDERS, &c., to their DERBYSHIRE PIG-IRON (smelted entirely with coke), which they can with confidence recommend for all purposes where purity of metal, combined with tenacity or strength, is an object. Their No. 3 pig-iron is sufficiently fluid for all descriptions of foundry-work. PIPING made from this quality will admit of almost any amount of hydraulic pressure. As a mixture with tender irons, or for purposes requiring great strength, their No. 4 is particularly adapted. For FORGE PURPOSES, the loss from waste in cinder, &c., is much below the usual average, and the product a very superior iron.

Messrs. R., W., and Co. also beg to inform RAILWAY CONTRACTORS, ENGINEERS, GAS and WATER-WORKS COMPANIES, BUILDERS, MILLWRIGHTS, &c., that having purchased an extensive assortment of models and apparatus from Messrs. Wm. Graham and Co., of Milton Iron-works (who have declined business), and having engaged experienced workmen from that establishment, they are in a position to furnish ALL DESCRIPTIONS OF CASTINGS, suitable for the above branches, and at moderate prices.

EAST OF SCOTLAND MALLEABLE IRON COMPANY.—The Directors have been authorised to RECEIVE OFFERS for the PURCHASE, or LEASE, of the MALLEABLE IRON WORKS at DUNFERMLINE—comprising a STEAM-ENGINE, of 80-horse power, working the machinery, consisting of FORGE and 2 PUDDLE BAR TRAINS, of 16 inches diameter, HAMMER and PATENT SHINGLING MACHINE; also a 16-inch MERCHANT BAR or RAIL MILL, a 12-inch MILL, for ordinary sized merchant bars, and an 8-inch GUIDE MILL, 13 PUDDLING FURNACES, and 6 MILL FURNACES—the whole capable of producing 120 tons of bar-iron weekly.

A REFINERY STEAM-ENGINE, of 45-horse power, with blowing apparatus, complete, and two fires erected.

A complete SET of WORKSHOPS, containing a 20-horse power STEAM-ENGINE, driving a powerful roll-turning lathe, and blowing apparatus for smiths' fires.

A PUMPING and CLAY MILL STEAM-ENGINE, of 16-horse power, used for the manufacture of fire-brick, and pumping water for supply of engines.

Also, in course of erection, a STEAM-ENGINE, of 80-horse power, intended to drive the mills apart from the forges, having strong cast-iron framing laid down, and machinery suitable on the premises, which could be brought into active operation in a short period.

Together with the necessary TOOLS, LOOSE MACHINERY and STOCKS, of different kinds.

Offers will also be received for the PURCHASE of the ESTATE of TRANSY, consisting of about 107 imperial acres, with elegant MANSION-HOUSE and PLEASURE GROUNDS, situated about half a mile to the east of the town of Dunfermline.

Applications may be made to Mr. Talbot, manager of the works; or to Johnstone, Russell, and Craig, writers, Dunfermline.

Dunfermline, March 15, 1850.

BRISTOL AND EXETER RAILWAY.—The Directors of the BRISTOL AND EXETER RAILWAY COMPANY desire to RECEIVE TENDERS for the SUPPLY of the following MATERIALS—viz.:

From FIVE HUNDRED to ONE THOUSAND TONS of IRON RAILS—and
From FIVE HUNDRED to ONE THOUSAND LOADS of QUEBEC YELLOW PINE TIMBER,

DELIVERABLE at the TERMINUS in BRISTOL, or at BRIDGEWATER, at the option of the Directors.

Specifications, and all other needful particulars, may be obtained at the office of Mr. Charles Hutton Gregory, 1, Delahay-street, Westminster; or at the Engineer's Office, in Temple Meads, Bristol.

Tenders should be sent (under cover) to the secretary, in Bristol, marked "Tender for Rails," or "Timber," *before* Eleven o'clock, on Wednesday, the 17th April.

The Directors do not engage to accept the lowest Tender.

By order of the Board, J. B. BADHAM, Secretary.

Bristol Office, Temple Meads, April 3. 1850,

RAILWAYS ABANDONMENT BILL.—All SHAREHOLDERS INTERESTED in this SUBJECT, upon which an article appeared in the *Globe* of last evening (and referred to in another column), are requested to apply for further information, by letter, addressed, in the meantime, to the "Honorary Secretary of the Railways Abandonment Society," care of the Editor of the *Mining Journal*, 26, Fleet-street, London.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages and ship cargo apply at the company's offices, No. 122, Leadenhall-street, London; and 57, High-street Southampton.

BELL'S NEW PATENT LIQUID CEMENT IS READY FOR USE, simple in its application, and only ONE-EIGHTH the cost of oil paint. For beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of fine cut stone; can be used at once on fresh Roman cement, or other plastering; is particularly calculated for country houses, villas, or gate entrances, that have become soiled or dingy, which may be beautified in any weather at a trifling cost.—Sold in casks of one, two, or three cwts., at 8s., 15s., and 21s. each, casks inclusive.

BELL'S PATENT MINERAL PAINT, more permanent and not half the cost of any other paint; invaluable as a coating for all kinds of wood or metal work, roofing, felt, leaky roofs, spouts, gutters, doors, sheds, railing, all kinds of out-door work; requires no preparation, and will dry in a few hours.—Brilliant black, 2s.; rich brown, 2s. 9d. per gallon. Light colours proportionately cheap; and as they will keep for any length of time, well calculated for exportation. G. BELL & Co.,

2, Wellington-street, Goswell-street, London.

ACCIDENTS.

Explosion of a Locomotive.—One of the locomotives belonging to the London and North-Western Railway "blew up," on Tuesday last, under somewhat extraordinary circumstances. The accident took place upon what is called Wolverton Bank, just beyond the locomotive workshops, a few minutes after six o'clock in the morning. The driver had, with the assistance of another person, been reversing the engine—the gear working very stiff—and was about to give the engine steam, in order to push a luggage-engine out of the way, when the boiler burst with terrific violence. Nearly 25 cwts. of the shell was thrown over some buildings, and to a distance of about 200 yards, and the engine-dome, weighing some 5 cwts., was thrown about 300 yards in another direction. Two or three wheels of the engine were forced off by the explosion. The fire-box was not torn asunder, and to its withstanding the shock is to be ascribed the miraculous escape of the driver and his assistant, who were on the footplate.

Manchester.—About a month since, J. Wild, aged 17 years, was dreadfully injured at the Mawson Colliery, by the ponderous iron balance-box to the waggons, which caught him as he passed, and tore the flesh off his thigh. He languished in the infirmary until Monday last, when he died.

Salford.—E. Edwards, aged 21, was killed by a mass of clay falling on him, at a pit belonging to Messrs. Barber and Worthington, in Ordsall-lane.

Tipton.—T. Rogers, stone getter in Groveland Colliery, was killed by an explosion in a hole, he not having gone far enough to be in a place of safety.

Willenhall.—T. Johnson was killed by a fall of clod, while working in a coal pit at Longacre.

Pendlebury.—As W. Breeze and J. Ashton were working in one of the bays at Messrs. Knowles's Clifton Colliery, an explosion took place, by which both men, but especially Breeze, were very much injured. They had carried a candle with them, which had come in contact with the fire-damp, and hence the explosion. Breeze was taken to the infirmary, where he died from ulceration of the stomach, caused by the burns.

Southwingfield.—Whilst T. Adkin was at work in one of Mr. R. C. Strelly's coal-pits, a quantity of coal fell upon him, and produced a compound fracture of the leg. Though the accident happened about midnight, the poor fellow could not be got out until nearly daylight, the engine-man not being in attendance.

St. Helen's.—James Sanderson, a drawer in the mines of Messrs. Josiah Barratt and Co., of Donald-green Colliery, in Ashton-in-Mackerfield, was killed by a fall of coals.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Carr's Hartley 15—Davison's West Hartley 15—New Tanfield 13 6—Old Tanfield 12—Ravensworth West Hartley 15—Tanfield Moor 14—West Wylam 13 9—Wylam 14 6—Wall's-End Bewicke and Co. 16—Clarke 14 6—Elm Park 16 3—Morrison 16—Northumberland 15—Washington 15 3—Eden Main 16 6—Braddyll 17—Hetton 17 6 Haswell 17 9—Lambton 17—Lumley 16—Russell's Hetton 17 3—Scarborough 16—Stewart's 17 6—Whitwell 15 6—Caradoc 16 6—Cassop 16 6—Heselden 16—Hartlepool 17 6—Kelloe 17—South Hartlepool 16 6—Whitworth 14—Birchgrove Graigola 21—Cowpen Hartley 15—Hartley 14—Howard's West Hartley Netherton 15—Llangennech 21—Newport Steam 19—Resolven Steam 21—Sidney's Hartley 15.—Ships at market, 111; sold, 81.

WEDNESDAY.—Buddle's West Hartley 14 6—Carr's Hartley 14 6—Davison's West Hartley 14 6—Holywell 14 6—Ord's Redheugh 12 6—Tanfield Moor 14—West Wylam 13 9—Wylam 14 6—Wall's-End Clarke 15—Clennel 15—Eden Main 16 6—Braddyll 17—Hetton 17 9—Stewart's 17 9—Caradoc 16 9—Cassop 16 9—Whitworth 13 9—Birchgrove Graigola 21—Cowpen Hartley 14 6—Resolven Steam 21—Sidney's Hartley 15.—Ships at market, 32; sold, 19.

FRIDAY.—Buddle's West Hartley 14 6—Carr's Hartley 14 6—Holywell 15—Ord's Redheugh 12 6—Tanfield Moor 14—West Wylam 13 6—Wylam 14 3—Wall's End Brad. Hall 17 6—Stewart's 20—Birchgrove Graigola 20 6—Sidney's Hartley 15—Ships 13; sold 7.

ACCIDENTAL DEATH INSURANCE COMPANY.
(*Completely Registered under the Act* 7 *and* 8, *Victoria, c.* 110).
7, BANK BUILDINGS, LOTHBURY, LONDON.
(ADJOINING THE GOVERNMENT ANNUITY OFFICE, OLD JEWRY).

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WILLIAM YOUNG, Secretary.

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No. 1—For SMALL and MEDIUM CASTINGS.
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The above is by far the strongest Cast-Iron made, and is now being extensively used where strong castings are required.

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BICKFORD'S PATENT SAFETY FUSE.—The Patentees of the ORIGINAL, and only real, SAFETY FUSE, beg to inform Merchants, Mine Agents, Railway Contractors, and all persons concerned in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE *has now a thread wrought into its centre*, which being patent right, infallibly *distinguishes it from all imitations*, and ensures the continuity of the gunpowder The Safety Fuse is now protected by a Second Patent, and manufactured by greatly improved machinery.

BICKFORD, SMITH, & DAVEY, Camborne, Cornwall.

WARRANTED SAFETY FUSE.—W. BRUNTON & CO. beg to inform Mine Agents, Contractors, and Merchants, that having completed their Machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE of a very superior quality, and at considerably reduced prices.

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.

Penhellick Fuse Factory, Pool, Truro, Cornwall.

TESTIMONIALS.

Messrs. W. BRUNTON & Co. *North Pool Mine, Nov.* 27, 1849.

GENTLEMEN,—We have had your Safety Fuse in constant use during the last seven months, and have much pleasure in expressing our own satisfaction with it, and in being able to tell you that we have not had a single complaint of your Fuse made by any of our men during the whole period—though they are particularly instructed to return any bad materials which may be supplied to them.

JAMES EVANS, Manager, FREDERICK EVANS,
JOHN NANCARROW, HENRY JAMES.

Messrs. W. BRUNTON & Co. *Tincroft Mine, Nov.* 27, 1849.

GENTLEMEN,—Since last March, when you commenced manufacturing Safety Fuse, we have had Fuse of your make in daily use in all parts of our mine, and can with strict impartiality state that the article supplied by you has been excellent. In proof of this we may mention, that during the whole of that time we have not had a single accident of any description.

PETER FLOYD, Manager, JOHN THOMAS,
THOMAS STAINSBY, HENRY HOCKEN,
THOMAS LEAN, RICHARD MARTIN.

Messrs. W. BRUNTON & Co. *Wheal Agar Mine, Nov.* 28, 1849.

GENTLEMEN,—There has been a good deal of your Fuse used at our mine, and we can safely pronounce it to be as good an article as we ever saw.

ALEX. EUDEY, Manager, JOSEPH EUDEY.

Messrs. W. BRUNTON & Co. *South Roskear Mine, Nov.* 29, 1849.

GENTLEMEN,—Your Fuse is a capital article, so far as our experience of it goes. It is well made, and certain in its operation. The men have brought no complaints of it, nor has a single accident occurred with it. WILLIAM THOMAS, JOHN DUNKIN.

Messrs. W. BRUNTON & Co. *North Roskear Mine, Nov.* 30, 1849.

GENTLEMEN,—All the Fuse you have sent to this mine, during several months past, has been as good as we have ever had from the other Fuse factories. There has been no fault found with it, nor has there been any accident in using it.

JOSEPH VIVIAN, Manager. JOHN HODGE.

Messrs. W. BRUNTON & Co. *Cook's Kitchen Mine, Nov.* 29, 1849.

GENTLEMEN,—We very cheerfully give our testimony to the good quality of your Fuse—for eight months we have used it, and no accident has occurred.

JOSEPH VIVIAN, Manager, JOHN IVEY,
W. G. HILL, RICHARD BENNETTS.

Messrs. W. BRUNTON & Co. *Carn Brea Mine, Nov.* 29, 1849.

GENTLEMEN,—We have used 9000 coils of your Fuse in our mine in the course of the last eight months; and have pleasure in stating that not a single case of accident has arisen therefrom, and we consider your Fuse as good as any that is made.

R. H. PIKE, Purser, ABSALOM BENNETTS,
JOHN LENTEN, } Managing JOHN VIVIAN,
JAMES MINERS, } Agents. JOHN JAMES,
WILLIAM ROBERTS, JOHN DAW.

Messrs. W. BRUNTON & Co. *Penhellick Fuse Factory.*

GENTLEMEN,—We have used, and are still using, your Fuse, and have no hesitation in expressing our conviction that it is, in all respects, entitled to the character of *Safety* Fuse—being as good an article, and as safe in use as any we have seen.

WILLIAM JEFFERY, } Lanarth Mine.
JOSEPH MICHELL, }
WM. H. VERRAN, East Wheal Fortune.
WILLIAM WILLIAMS, Manager,
FRANCIS BENNETTS, } Wheal Friendship Mine.
JAMES WILLIAMS, }
JOSEPH PEARSE, }
FRANCIS KENT. }

Messrs. W. BRUNTON & Co. *Prestonpans Colliery, Edinburgh Sept,* 17, 1849.

GENTLEMEN,—The miners inform me that the Fuses are of excellent quality, and have not lost a single shot since the commencement; while, with some of a very similar appearance we used before, nearly half the charges missed fire. JOHN GRIEVE.

OILS.—BROTHERTON & CO. beg to call the attention of all parties EMPLOYING STEAM POWER to their PATENT PURIFIED OILS, for the economical working of STEAM-ENGINES and MACHINERY and BURNING IN LAMPS. The adoption of its use effects a saving of 25 per cent. over any other oil and its properties are such as to greatly preserve machinery bearings.

BROTHERTON & CO.,
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Just published.

MONEY VERSUS LIFE: A REVIEW of COLLIERY CASUALTIES—showing their Cause and Extent—the Parsimony of Coalowners—the Concealment of Deaths in Mines—the Inaccuracy of Returns by Coroners—the necessity of Government Inspection, more Shafts, and adequate Provision for Widows and Orphans of the Victims to Explosion, &c.—with the means to provide for the same without unjust taxation;—also showing the Clemency of Government towards the Coalowners of the North. By C. COLWELL, Southwark.—Price 2s. 6d., in cloth and lettered.

Simpkin and Marshall, London.

THE MINING ALMANACK for 1850: compiled and arranged by HENRY ENGLISH, Mining Engineer, &c. Under the especial sanction and patronage of H.R.H. PRINCE ALBERT, Lord Warden of the Stannaries, Chief Steward of the Duchy of Cornwall, Devon, &c.—THE SECOND VOLUME will appear early in APRIL next, with ADDITIONAL TABLES and STATISTICS, connected with the Mining Interests.—Names of subscribers are requested to be addressed to Mr. H. English, 25, Fleet-street.

IMPROVED LIFTING JACKS,

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*** The attention of parties who employ

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is respectfully requested to the superiority of those annexed, over those hitherto in use.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

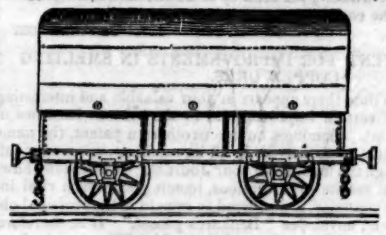
IMPORTANT TO RAILWAY COMPANIES, CARRIERS, AND OTHERS.

ROWLAND BROTHERHOOD'S TILT, for COVERING RAILWAY TRUCKS, WAGGONS, &c.

This invention allows of trucks or waggons being covered or uncovered with surprising ease and facility, so that one porter can uncover two trucks in the space of a minute, and two can re-cover both in the same time. It allows of a small portion, or the whole area of the truck, being uncovered, and affords great facility for loading and unloading, and protecting the goods in these operations, as well as in the course of transit. It can be secured by locks and keys, thus rendering merchandise secure from plunder. It is cheap in its construction, can be applied to railway trucks and waggons generally, and is easily attached or detached. It runs smoothly through the air at high speeds, and against head winds.

This Tilt has been in use on different parts of the broad guage during the winter, and has been found to work remarkably well in the severest weather. Experienced and practical persons, who have the management of large goods' stations, and have seen these tilts in working, and who know the great wear and tear of cloths, tarpauling, &c., and the inconvenience of existing modes for goods' covering, are of opinion that these Tilts will be of great utility in railway service. The patentee is himself prepared either to construct or, on moderate terms, to license parties to construct his patent Tilts.

Applications to be addressed to R. Brotherhood, Railway-Works, Chippenham, Wilts.



No. 1.

This shows the side elevation of a waggon, with the tilt closed and fastened down.

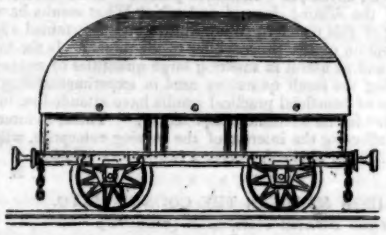
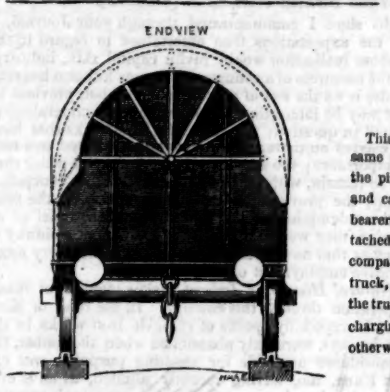


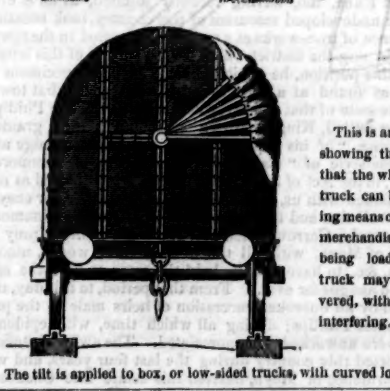
Fig. 2.

This shows the tilt as applied to a box, waggon, or long-sided truck, with longitudinal bearers.



No. 3.

This is an end elevation of the same on a larger scale, showing the pin and fan which supports and carries over the longitudinal bearers to which the cloth is attached, and which when open lies compactly folded along the side of truck, leaving the whole area of the truck open for receiving or discharging its contents by crane or otherwise.



No. 4.

This is an end elevation of the same, showing the tilt partially closed, so that the whole or any portion of the truck can be open at pleasure, affording means of protection for part of the merchandise, whilst the other is being loaded or unloaded, or the truck may be used entirely uncovered, without the tilt in the least interfering.

The tilt is applied to box, or low-sided trucks, with curved longitudinal bearers.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.

E. J. DENT, 82, Strand; 33, Cockspur-street; 34, Royal Exchange (clock tower area), Watch and Clock Maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE,

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

SEWERAGE OF LONDON.—The ATTENTION of the COMMISSIONERS appointed to determine upon the MOST EFFICIENT MATERIAL for the CONSTRUCTION of the SEWERS OF LONDON, is particularly directed to the ASPHALTE OF SEYSSEL, which more than any other material is applicable to the CONSTRUCTING and INTERNAL COATING of BRICK CULVERTS and OTHER CHANNELS for DRAINAGE.

The experiments made by the Royal Artillery on the embrasures of Plymouth Citadel, constructed of Seyssel Asphalte Brickwork, under the orders of the Hon. Board of Ordnance, have fully proved the superiority, adhesiveness, and strength of Seyssel Asphalte over all other cementitious compositions. A printed account of these experiments can be had on application to I. FARRELL, Secretary,

Seyssel Asphalte Company—"Claridge's Patent"—Established 1838.

Note.—The application of the Asphalte of Seyssel is specially recommended by the Commissioners on the Fine Arts for covering the ground line of brickwork in marshy situations, and it has been suggested that it would be peculiarly applicable for covering the *areas* of closed *grave yards*, and for the construction of *catacombs*.

THE TEETH—DENTAL SURGERY.—Mr. GAVIN, SURGEON DENTIST, 33, SOUTHAMPTON-STREET, STRAND, begs to call the attention of his patients and the public generally to his recent important improvements in ARTIFICIAL TEETH, and to his perfect and painless system of fixing them in the mouth, by which successful and scientific principle the removal of roots, or any painful operation whatever, is entirely obviated. Old pieces of teeth, or misfits remodelled and adapted to the mouth with security and comfort. Mr. Gavin begs also to state, that, notwithstanding his late invaluable improvements in dental science, he still insures the same moderate charges and successful treatment which have procured him such extensive patronage.—A single tooth..... from £0 5
A complete set 5 0
Cleaning and removing the tartar from the teeth 0 5
Stopping carious teeth with a cement which does not discolour.. 0 2

Consultation free.—No. 33, SOUTHAMPTON-STREET, STRAND, opposite the *Athe* newspaper office.

London: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors), at their offices, No. 26, FLEET-STREET, where all communications are requested to be addressed. [*April* 6, 1850.